

SIERRA LEONE.

Annual Report

ON THE

MEDICAL DEPARTMENT

FOR THE

YEAR ENDED 31ST DECEMBER, 1911.



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ANNUAL REPORT ON THE MEDICAL DEPARTMENT FOR THE YEAR ENDED DECEMBER 31st, 1911.

I have the honour to submit the Annual Report on the Medical and Sanitary Department of this Colony for the year 1911.

STAFF.

The Medical Staff of this Colony consisted of the following :—

Principal Medical Officer, Senior Medical Officer, thirteen Medical Officers, three Local Medical Officers, and a Senior and Junior Sanitary Officer.

The Junior Staff consisted of five European Nursing Sisters, one Resident and one Assistant Resident Dispenser, six first class, eight second class, and seven third class Dispensers, eighteen Male Nurses and Dressers, eight Female Nurses, three Probationer Nurses, and one Public Vaccinator.

The Clerical Staff consisted of the Chief Clerk and two Assistants, the Storekeeper and his Assistant, and one Sanitary Clerk.

The following changes, leaves, &c., occurred during the year :—

I went on leave on 27th September, and during my absence, Dr. Burrows acted as Principal Medical Officer until 19th December, when Dr. J. Wallace Collett arrived in the Colony, having been transferred from Southern Nigeria on promotion to Senior Medical Officer, and took over the duties of Acting Principal Medical Officer on 20th December.

Dr. Burrows took over the duties of Acting Senior Medical Officer from Dr. Allan to the end of the year. Dr. Allan acted as Senior Medical Officer from 10th May to 19th December.

New Appointments.—Dr. J. Wallace Collett, Senior Medical Officer, transferred on promotion from Southern Nigeria. Dr. D. Alexander, Junior Sanitary Officer, transferred from Northern Nigeria. Drs. Rollason and Butler, Medical Officers. Miss Forrest, Matron, Colonial Hospital. Mrs. Krüger and Miss Appleton, Nursing Sisters in the Nursing Home.

On Leave of Absence during the year :—

Drs. Kennan, S.S.O., Davson, S.M.O., Campbell, Wood, McConaghy, Wood-Mason, Pearson, Burrows, Orpen, Allan, Taylor, Nicholson, Alexander and Arbuckle. Also Nursing Sisters Drewe, Cooke and McLeod.

Resignations.—Dr. Davson, Nursing Sister Drewe, and Dispenser E. H. Beccles.

Invalided out of the Service.—Dr. W. N. Alexander.

In the Junior Staff the following went on and returned from leave of absence during the year:—

Dispensers Anderson, McCauley, Wright, Thomas, Nylander, Buck, Lardner, Luke, Betts, Johnson, and Smith; Nurses Boston and Peters; Vaccinator Coker, Keeper Buckle and Second Clerk M. St. G. Auber.

Invalided out of the Service.—J. A. Horton-Thompson, Assistant Storekeeper, and Thomas Wilcox, Cook.

Promotions.—Dispensing Staff.—T. M. Scott as Third Class Dispenser.

Appointments.—Junior Staff.—Mr. F. E. Garnon, Second Clerk, vice Mr. St. G. Auber, promoted; Mr. E. J. Parkinson, Assistant Storekeeper, vice Mr. J. A. Horton-Thompson, invalided; Mr. A. T. Harleston, Sanitary Clerk, and Mr. H. Stewart, Messenger.

FINANCIAL STATEMENT.

REVENUE.

	£	s.	d.
Hospital receipts, paying patients, &c.	196	0	10
Nursing Home (European) receipts	167	17	9
Sale of Medicines, &c.	100	10	4
For maintenance of Lunatics from other Colonies (Southern Nigeria and Gambia)	608	10	5
Total	£1,072	19	4

There is a decrease of £9 4s. 9d. as compared with 1910.

EXPENDITURE.

	£	s.	d.
Personal Emoluments, &c. ...	17,401	2	8
Provisions and Necessaries ...	4,096	2	4
Medicines, &c.	1,020	7	8
Hospital Equipment	165	2	1
Total	£22,682	14	9

A decrease in the actual expenditure as compared with the previous year of £1,037 0s. 6d. This decrease is, however, explained by the fact that owing to the lateness of the second half year's Indents on the Crown Agents, the accounts were transferred to the 1912 Estimates; also by the transference of the Sanitary Officers to a separate head in the Estimates.

SANITARY SUB-DEPARTMENT EXPENDITURE.

	£	s.	d.
Personal Emoluments	1,589	18	9
Other Charges, Transport, &c. ...	944	12	10
Total	£2,534	11	7

PUBLIC HEALTH.—(FREETOWN).

Colony.—The population of the Colony according to the census returns for the year was 75,572, and the number of deaths registered was 1,314, a death rate of 17 per 1,000.

The births registered number 1,116, which gives a birth rate of 14 per 1,000. Registration in the Colony is not, however, reliable owing to the law not being compulsory.

In the City of Freetown registration is more or less compulsory and is therefore more reliable, and the figures may be taken as showing approximately the true state of things as regards birth and death rates.

The population of Freetown by the 1911 census was 34,090, the births registered numbered 501, and the deaths numbered 747, these figures show a birth rate of 14 and a death rate of 21 per 1,000 respectively.

The ten chief causes of death were, in the order given, as follows:—

1. Diseases of the Digestive System.
2. Diseases of the Nervous System.
3. Diseases of the Respiratory System.
4. Debility.
5. Fever (Malarial(?))
6. Diseases of the Circulatory System.
7. Rheumatism.
8. Premature Birth.
9. Diseases of the Urinary System.
10. Tubercle.

It must, however, be stated that only about 25 per cent. of the deaths registered are certified to by Medical Practitioners.

General Native Population.—Of the total deaths registered in Freetown during the year, 156 occurred under the age of twelve months, 58 less than the previous year, and showing an infantile death rate of 310 per 1,000 births, a decrease of 58 on the rate for 1910.

The infantile death rate for the past ten years was:—

Year	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Rate	466	471	388	461	434	357	351	344	368	310

From this it will be seen that last year was the lowest on record.

One fact stands out in the medical history of Freetown for 1911, where we know special anti-mosquito measures have been strictly enforced from early in 1910, and that is the marked reduction in the number of deaths from fever (fever in this case meaning all cases of death in which temperature was the most prominent symptom), as noticed by the friends of the deceased and given as the cause of death to the Registrar, thus:—

In 1910 the deaths registered as due to Fever numbered 122.

In 1911 the deaths registered as due to Fever numbered 68.

There is also a marked reduction in the number of Malarial Fever cases as recorded by Medical Officers :—

Malarial Fever cases in 1910	...	1,207	} In Freetown.
Malarial Fever cases in 1911	...	1,056	

i.e., a reduction of 151 cases in the year as compared with 1910. These results are very encouraging, and in my opinion must be attributed to the rigorous enforcement of the anti-mosquito laws introduced during the past eighteen months resulting in a reduction in larva-bearing compounds to 6 per cent. towards the end of the year: an improvement since the early part of 1910 when the percentage was between 30 and 40.

The general health of Freetown during the year may be said to have been satisfactory, the death rate having been lower than, I believe, it has ever been, viz., 21 per 1,000.

The Colony and Protectorate were free from any outbreaks of infectious disease during the year, with the exception of a few cases of Chicken Pox and five cases of Variola that occurred, one in Freetown, two in the Koinadugu district, one at Moyamba, and one at Bonthé; any remarks comparing the diseases prevalent at different seasons of the year, founded on the registration of deaths, would be of little value owing to the small number of deaths certified to by Medical men. From my own observations I have noted that fevers are more common during the change of season from the dry to rainy season and *vice versa*—the period of intermittent showers,—during the latter season, owing to the lower temperature that prevails, respiratory diseases are more prevalent. During the year 1911 there was nothing remarkable in the seasonal recurrence of disease, only that the number of fever cases was below that of former years.

The Sanitation of Freetown was carried on as usual by the Sanitary Department of the Town Council, for which there was estimated the sum of £2,605 16s. 3d. Of this amount £459 12s. 11d. represents the pay of a Sanitary Inspector and 14 Assistant Inspectors, and £1,200 the actual cost of scavenging as done by the Council. It was found, however, as in the previous year, that a larger gang of labourers was required for scavenging, as the 50 to 100 men, for which the Corporation provided, were found quite inadequate to cope with the seemingly inexhaustible amount of waste matter collected in the town, especially old tins, bottles, &c. Therefore the Government had to provide an extra 100 men in order to comply with the exigencies of the case.

The following list shows some of the work done by the Sanitary Inspectors during the year :—

Summonses taken out for presence of mosquito larvæ, &c.	...	...	1,313
Number of convictions	...	...	1,029
Amount received in fines	...	...	£240 6 7
Amount received for cleaning of lots neglected by owners	...	...	£2 2 6
Number of notices served for insanitary conditions	...	...	1,336
Quantity of diseased meat seized and destroyed	...	...	486 lbs.
Number of canoe loads of old tins, bottles, &c., removed and dumped into the sea	...	...	1,514
Number of cart loads of rubbish removed and burnt in incinerators			3,046

The quantity of old tins, bottles and other waste articles likely to act as mosquito breeders, removed (a canoe's capacity by measurement being two tons), was 3,028 tons as compared with 2,042 tons in 1910.

Other anti-malarial measures such as the oiling of pools, the clearing of drains, and the free administration of quinine, were continued during the year.

GENERAL EUROPEAN POPULATION.

There was an improvement in the health of the general European population during 1911. The total number of Europeans resident in the Colony and Protectorate during the year was approximately 909, made up as follows:—

Officials	...	...	...	...	192
Military	...	...	...	...	374
Non-Officials	...	...	...	...	343
					<hr/>
					909
					<hr/>

There were three deaths due to Blackwater Fever, accident (mentioned elsewhere) and Heart Disease.

There were 56 invalidings, of which 17 were for Malaria and one for Blackwater, the other causes were:—Tuberculosis, Syphilis, Adenitis, Inflammation of Middle Ear, Aortic Aneurism, Rheumatism, Indigestion, Heatstroke, Diarrhœa.

The following table gives a comparative Statement of European deaths during the past 10 years:—

Year.	Landed from Vessels.		Colony and Protectorate.		Military.		Total.
	Climatic.	Non-Climatic.	Climatic.	Non-Climatic.	Climatic.	Non-Climatic.	
1902	3	—	3	Nil.	1	1	8
1903	2	—	2	2	2	3	11
1904	3	—	2	3	2	2	12
1905	3	—	2	2	1	Nil.	8
1906	3	—	2	1	1	1	8
1907	2	—	3	3	2	3	13
1908	1	—	1	6	3	2	13
1909	3	—	3	Nil.	Nil.	Nil.	6
1910	Nil.	Nil.	9	2	2	2	15
1911	2	5	2	1	Nil.	1	11

HILL STATION.

During the year 1911 there were 90 individuals resident at Hill Station for varying periods. Some were temporarily absent on duty in the Colony and Protectorate. The number 90 does not include those officials who left the Colony and returned during the year after vacation leave in England.

The following table shows the composition of the resident population at the beginning and end of the year and it may be taken as fairly repre-

sentative of the population through the year, except perhaps that fewer wives of officials are out during the rains.

	Colonial Officials and Wives.	Non- Official.	Military and Wives.
Brought forward from 1910 ...	21	2	21
Carried „ to 1912 ...	20	6	12

Sick List.—There were 22 cases of illness during the year, distributed as follows:—

Colonial Officials and Wives ...	...	...	18
Military... ..	...	...	3
Others ... ..	...	...	1
Total ... ..	...	...	22

The causes were:—

Climatic	11
Non-Climatic	11

Climatic diseases were Remittent Fever (Irregular Malaria(?)), Tumbo Fly, Malarial Fever, and Dysentery.

Water Supply.—This was good and constant throughout the year, and with the exception of a break of a day, when the main pipe was struck by lightning and smashed, there was no actual shortage.

Mr. H. Humphreys, Consulting Engineer, resided at Hill Station during his visit and considered the scheme for an increased water supply for Hill Station while dealing with the larger question of the Freetown supply.

Small Pox.—There was no epidemic outbreak of this disease during the year. Five cases only of the disease were reported: 1 at Freetown, 2 in the Koinadugu District, 1 at Moyamba and 1 at Bonthe; early isolation and vaccination of possible contacts in each case were successful in preventing any recurrence or spread of the disease. Vaccination was carried out as regularly as possible in the Colony and Protectorate during the year, with the following results:—

Total Cases.	Successes.	Failures.	Not Seen.
8,432	5,199 (61%)	1,525 (18%)	1,708 (20%)

The number of cases which it was not possible for the Medical Officers to see a second time, in order to check the result, is rather large, but if we allow for the same percentage of successes among them, that would bring the total of successful cases to over six thousand.

Quarantine.—During the year it was not found necessary to open the Sanitary Station for the isolation of passengers and crew, arriving at the port of Freetown, from infected places. The old lazaretto at Kissy, chiefly used for the segregation of small-pox contacts arriving from infected ships or ports, was opened once for the isolation and observation of 45 natives (passengers and crew) who were landed from a steamer on which a case of small-pox was said to have occurred. The case, however, turned out to be one of chicken pox.

Yellow Fever.—I am pleased to be able to report that no case of this disease occurred during the year.

Trypanosomiasis.—No case reported.

Dysentery.—197 cases of this disease were reported by Medical Officers during the year.

Syphilis.—286 cases were treated showing a rate of 3 cases per 1,000 of cases of ordinary diseases. There were 85 cases less than the previous year.

Malarial Fever Cases.—There were 2,208 cases of fever treated during the year, *i.e.*, 264 less than in 1910 for the Colony and Protectorate, and for Freetown 151 fewer cases than in the previous year. This latter statement is founded on the number of cases actually recorded by the Medical Staff in Freetown, and must, I think, be taken as an indication of the dawn of the new era of the more effective anti-mosquito sanitation in Freetown.

Yaws.—There were 66 cases of this disease met with during the year. This disease does not seem to be progressive in this part of West Africa, much fewer cases having been treated in 1911 than in the previous year.

Tetanus.—This disease seems to be peculiarly liable to show itself in certain cases of injury, sometimes of the most trivial nature, in West Africa. 13 cases were treated in the Colonial Hospital, Freetown during the year.

Beri-Beri.—Eight cases of this malady were met with during the year. The lesser consumption of imported Indian rice is largely responsible for the fewer number of cases as compared with 1910.

Leprosy.—Only 10 cases were seen during the year, exclusive of those in the male leprosy segregation ward at Kissy. From the observations of Medical Officers, this disease does not seem to be on the increase in Sierra Leone.

Ankylostomiasis.—Eight cases were treated during the year. The parasite is fairly common around the wells and cesspits of Freetown, but treatment for conditions resulting from infection by the parasite is not very frequently sought.

EUROPEAN OFFICIALS.

The general health of European Officials, who numbered 192 during the year (an increase of 21 over the previous year), was satisfactory. There was no death from disease. One death, however, occurred, the result of the unexpected explosion of a dynamite cartridge during some blasting operations, severe injuries to the face and scalp being caused, which ended in death within a few hours after the explosion.

The following climatic diseases occurred among them :—

Blackwater Fever	...	...	1 case.
Dysentery	...	...	1 „
Malarial Fevers	...	...	27 „
Syriasis	...	...	1 „
Abscess of liver	...	...	1 „
Congestion of liver	...	...	4 „
Total			<u>35 cases.</u>

There were 90 admissions on the sick list, and a little over one-third of these were for climatic diseases as shown above. Of the non-climatic diseases treated the most prevalent were :—

Diarrhœa	...	...	...
Dyspepsia	...	...	...
Gastritis	...	...	...
Influenza	...	...	...
Rheumatism	...	...	...

There were 5 Invalidings for the following causes :—

Anæmia	...	...	...	1
Diarrhœa (Chronic)	...	...	...	1
Remittent Fever	...	...	...	1
Phthisis	...	...	...	1
Rheumatism (articular)	...	...	...	1
Total				<u>5</u>

The following Table shows the Sick, Invaliding and Death Rates of European Officials :—

1.	Total number of European Officials resident	...	192
2.	Average number of European Officials resident	...	120
3.	Total number of European Officials on sick list	...	90
4.	Total number of days on the sick list	...	532
5.	Average daily number on sick list	...	1·45
6.	Percentage of sick to average number resident	...	75%
7.	Average number of days on sick list for each patient...	...	5·91
8.	Average sick time to each resident	...	4·43 days.
9.	Total number invalided	...	5
10.	Percentage of invalidings to total residents	...	2·6
11.	Total deaths	...	1 (accidental).
12.	Percentage of deaths to total residents	...	·52
13.	Percentage of deaths to average number resident	...	·83
14.	Number of cases of sickness contracted away from residence	...	2

NATIVE OFFICIALS.

The total number serving during the year, as given by the Secretariat, was 721, exclusive of Boatmen and Policemen, and I think it may be said that their general health as compared with 1910 was satisfactory. Among them there were 749 admissions on the sick list.

There were two deaths as compared with ten in 1910, the causes being Double Pneumonia and Septicaemia; and there were three invalidings for Chronic Bright's Disease, Brain Tumour, and Abdominal Tumour (Carcinoma).

There were no diseases of a particular kind that call for any special mention. I think it well to draw attention to a possible cause of minor ailments such as debility, dyspepsia, constipation with its consequences, mild forms of anæmia, loss of appetite, insomnia, etc., which native Clerks suffer from, to what I consider an excessive extent, and that is continuous work for lengthened periods, frequently up to 4 or 5 years, without any leave, there being no regular system by which native officers should take leave at stated intervals. I suggest that native officials, as in the case of Europeans, should

be compelled to take an annual leave regulated in accordance with their position. I am certain there would be fewer admissions to the sick lists for the class of ailments mentioned, and the work done by them would be of a better quality all round.

The following Table shows the Sick, Invaliding and Death Rates of Native Officials.

1.	Total number resident	...	...	...	...	721
2.	Average number resident	...	...	...	...	693
3.	Total number on sick list	...	...	...	...	749
4.	Total number of days on sick list	...	...	...	...	3,473
5.	Average daily number on sick list	...	...	...	...	9.51
6.	Percentage of sick to average number resident	...	...	...	...	108%
7.	Average number of days on sick list for each patient	...	...	...	...	4.63 days.
8.	Average sick time to each resident	...	...	...	...	5.01 „
9.	Total number invalided	...	...	...	...	3
10.	Percentage of invalidings to total residents	...	...	...	...	0.41%
11.	Total deaths	...	...	...	...	2
12.	Percentage of deaths to total residents	...	...	...	...	0.27%
13.	Percentage of deaths to average number resident	...	...	...	...	0.28%
14.	Number of cases of sickness contracted away from residence	...	...	...	...	nil.

HOSPITALS AND DISPENSARIES.

COLONIAL HOSPITAL.

(By DR. BURROWS, ACT. S.M.O.)

Charge.—Dr. Davson, S.M.O., was in charge of the Hospital from the beginning of the year until he left the Colony. His health having broken down he retired from the service on pension, and Dr. Collett was appointed S.M.O. on promotion from Southern Nigeria. Dr. Collett assumed the duties of acting P.M.O. which Dr. Burrows had been carrying on, and he in turn relieved Dr. Allan, who had been acting S.M.O. since Dr. Davson's departure from the Colony.

The following Medical Officers worked at the Colonial Hospital for varying periods during the year:—Drs. Rollason, Wood, Butler, Orpen and Campbell. Dr. Renner was attached during the entire year, and Dr. Mayhew of the Princess Christian Mission Hospital was temporarily employed.

European Nursing Staff.—Miss Drewe took over from Miss Micklethwaite, who retired after two years of useful work. Miss Cooke went on leave in April and returned in October. Mrs. Krüger, of the Nursing Home Staff, was in charge of the Hospital until the appointment of Miss Forrest, in June, as Matron.

The Junior Staff of the Hospital was practically the same through the year. Cook Wilcox retired after 10 years' service on the score of old age.

Hospital Building and Improvements.—In view of the welcome news of the sanction of the new Hospital, nothing was done during the year in the way of improvements.

The old "Waiting Room" near King Jimmy Laundry was repaired and rendered fit for fumigation purposes. This room is used to isolate small pox cases, etc., before removal to the Infectious Diseases Hospital at Kissy.

Isolation Cottage.—The old Matron's Quarters were still reserved as an Isolation Hospital and for special cases. During the year the following cases were admitted:—

Malarial Fever	...	...	...	...	3	
Blackwater Fever	...	...	..	...	1	
Cerebral Hæmorrhage	...	...	...	...	1	} Died.
Injury (Explosion)	...	...	...	...	1	

Intern. Patients.—The total number treated was 1,535. This is 35 in excess of the number for last year which taxed the resources of the Hospital to the utmost. It was often found necessary to discharge patients sooner than one would be inclined to, but beds have to be found for urgent and serious cases, and so convalescent cases are discharged in preference to adopting the old and objectionable practice of putting patients on the floor and overcrowding the ward. A satisfactory feature to note is that there was a still further decrease in the death rate:—

In 1910	there were	141	deaths in	1,500	cases, <i>i.e.</i>	9·13%
„ 1911	„ „	133	„ „	1,535	„ „	8·66%

Out-patients.—The number of out-patients in 1911 was 30,228. The number in 1910 was considered phenomenal, viz., 31,795, as indeed it is, and though the number for 1911 is lower, it is still telling, as it is generally conceded that the year under report was “healthy.” The falling off, therefore, is more a matter for congratulation, as resulting from the undoubtedly improved sanitation and cleaning of the City.

There have been complaints that out-patients are kept waiting for protracted periods before being attended to. This is inevitable from the restricted accommodation available for out-patients, and it must also be borne in mind that there has been no material or proportionate increase in the dispensing staff to cope with the steady increase in the out-patients during the past 10 years. On the other hand, a large number of people seek relief for minor ailments which the dictates of common sense and proper pride should make them attend to at home. Applications for purgatives, worm powders, simple dressings for minor injuries, etc., swell the list of free-treated patients who have no hesitation in pleading absolute poverty to suit their ends.

Hospital Earnings.—The amount received from paying out-patients was £22 4s. 8d., which amount, when distributed over 30,000 patients, shows the extent to which they take advantage of the Hospital.

Paying Intern. Patients contributed in 1911 the sum of £157 2s. 0d.

Operations.—The number of operations necessitating the use of anaesthetics during the year was 318. This is by far the greatest number for any one year as shown by the figures below. The attached Table gives a list of the conditions necessitating operations and of the success attending them. The small number of deaths is a matter for congratulation.

In 1902	...	...	...	...	44 Operations.
„ 1903	...	...	...	...	126 „
„ 1904	...	...	...	...	145 „
„ 1905	...	...	...	...	179 „
„ 1906	...	...	...	...	146 „
„ 1907	...	...	...	...	190 „
„ 1908	...	...	...	...	135 „
„ 1909	...	...	...	...	218 „
„ 1910	...	...	...	...	220 „
„ 1911	...	...	...	...	318 „

Laboratory.—This useful little department has struggled along under adverse conditions with no regular officer in charge of it. It has, however, been of the greatest assistance in Clinical and Diagnostic difficulties, and though no regular record has been kept of all the cases examined, there is sufficient evidence to prove its utility and to urge the necessity of having a larger room and a Medical Officer who can devote a definite period of each day towards examining specimens without the constant interruption and the enforced hurrying which his other duties entail. The number of cases in which Tubercle Bacilli were found serves only to strengthen the opinion expressed in a former report that Tuberculosis and Phthisis, in particular, are decidedly on the increase.

CONCLUSION.—This report is necessarily short and beyond commenting on the returns I can do no more, as I did not assume charge of the Hospital until the end of December.

TABLE OF SURGICAL OPERATIONS.—(Under Chloroform and other Anaesthetics).
 COLONIAL HOSPITAL, 1911.

	Remain- ing in Hospital, 31-12-10.	Number Admitted.	Total.	Successful.	Not Re- lieved.	Died.	Remain- ing in Hospital, 31-12-11.
Abdominal Section... ..	—	4	4	3	1	—	—
Appendisectomy	—	1	1	—	—	1	—
Abscess, Opening of	1	52	53	50	1	2	—
Abscess of Liver, Incision for	—	3	3	1	1	1	—
Amputations	3	19	22	19	—	2	1
Cancer of Penis, Amputation of	—	1	1	1	—	—	—
Cancer	—	2	2	—	1	1	—
Cellulitis, Incisions for	1	2	3	1	—	2	—
Circumcisions	3	61	64	64	—	—	—
Cirrhosis of Liver, Epiploexy	—	1	1	—	1	—	—
Curetting	—	6	6	6	—	—	—
Delivery by Forceps	—	1	1	1	—	—	—
Dilatation, Stricture of Urethra	—	29	29	26	1	1	1
Dislocation, Reduction of	—	1	1	1	—	—	—
Elephantiasis of Scrotum, Removal of	2	4	6	5	—	1	—
Empyema, Drainage	—	2	2	1	—	1	—
Enucleation of Glands	—	10	10	8	—	1	1
Examinations	—	7	7	7	—	—	—
External Urethrotomy	—	10	10	10	—	—	—
Extravasation of Urine, Relief of	—	1	1	—	—	—	1
Fistula in Ano, Incisions	—	1	1	1	—	—	—
Foreign body, Removal of	—	5	5	5	—	—	—
Hæmatocele, Incisions for	—	3	3	3	—	—	—
Hæmorrhoids, Excision of	—	1	1	1	—	—	—
Hernia, Radical Cure	1	31	32	29	—	3	—
Herniotomy	1	5	6	3	—	3	—
Hydrocele, Radical Cure	—	12	12	12	—	—	—
Hysterectomy	—	1	1	—	—	1	—
Ligaturing of Artery	—	3	3	3	—	—	—
Necrosis and Sequestrotomy	1	6	7	7	—	—	—
Perineal Section	—	2	2	2	—	—	—
Pinhole Os Uteri, Dilatation	—	1	1	1	—	—	—
Plastic Operation	—	1	1	1	—	—	—
Pyonephrosis, Drainage	—	1	1	1	—	—	—
Scraping of Ulcer	—	5	5	5	—	—	—
Septic Arthritis, Incision	—	1	1	1	—	—	—
Setting of Compound Fracture	—	3	3	3	—	—	—
Testicle, Removal of	1	—	1	1	—	—	—
Tumours, Various, Removal of	—	11	11	11	—	—	—
Trephining	1	—	1	1	—	—	—
Wounds, Suturing of	1	8	9	9	—	—	—
Total	16	318	334	304	6	20	4

REPORT ON WORK DONE IN THE KING-HARMAN'S
MATERNITY WARD OF THE COLONIAL HOSPITAL FOR
THE YEAR 1911.

(*By* DR. WM. RENNER.)

1. During the year, 125 cases were treated and were distributed as follows :—

Patients remaining in the Ward on the 31st December,									
1910	...	...	...	...	...	...	...	1	
Admitted during the year 1911	...	...	...	...	...	...	...	124	
								<u>125</u>	

Of these were :—

Discharged Cured	...	...	...	94	
Relieved	...	..	...	27	
Died	...	...	...	3	
Remaining in the Ward, 31st December, 1911				1	
				<u>125</u>	

These consisted of :—

Primipara	...	Married	3	Unmarried	37
Multipara	...	„	35	„	50
			<u>38</u>		<u>87</u>

Included in these were :—

Abortions	...	...	...	5	
Threatened Abortions	...	...	...	3	
Miscarriages	...	...	...	5	
Premature Labours	...	...	...	11	
Cases Undelivered	...	...	...	7	

The condition of the Mothers on admission was as follows :—

Good	...	...	...	81	
Fair...	...	...	...	21	
Weak	...	...	...	18	
Unconscious	...	...	...	2	
Moribund	...	...	...	1	
Exhausted	...	...	...	2	
				<u>125</u>	

The sexes of Infants born were :—

Male	...	...	...	44	
Female	...	...	...	50	
				<u>94</u>	

One child was born which had the record weight of $12\frac{1}{2}$ lbs., but he died 21 hours after from Hæmatemesis.

The presentations were as follows :—

Vertex	...	...	...	...	85
Breach	...	...	...	...	7
Footling	...	...	...	...	4
Face...	...	...	...	...	1
					<u>97</u>

Of Instrumental Labours there were :—

Application of Forceps	...	...	5
Perforation (Hydrocephalus)	...	...	1
			<u>6</u>

No paying patients were admitted into the private Wards during the year.

2. Of patients with complications on admission were :—

Fever (Malarial)	...	...	...	4
Diarrhœa	...	...	...	1
Constipation	...	...	...	3
Renal Asthma	...	...	...	1
Hæmorrhage before admission	...	...	...	4
Neglected Foot Presentation	...	...	...	1
Eclampsia	...	...	...	2
Delay in the birth of head, body born an hour before admission (Hydrocephalus)				1
				<u>17</u>

Complications after admission :—

Ruptured Perineum	...	...	...	4
Post-partum Hæmorrhage	...	...	...	4
Adherent Placenta	...	...	...	4
Prolapse of the Cord	...	...	...	1
Fever after Delivery	...	...	...	1
Puerperal Mania	...	...	...	1
Eclampsia	...	...	...	2
				<u>17</u>

3. Particulars of cases which resulted in death :—

(a) Admitted January 28th in a moribund condition with Eclampsia ; died five minutes afterwards, without being delivered.

(b) Admitted May 22nd in a very weak condition ; slight post-partum hæmorrhage after birth of Placenta ; died suddenly four hours after delivery from cardiac failure.

(c) Admitted September 10th in an unconscious condition ; her friends state that she had Fever Convulsions on the day of admission, between 2 and 5 p.m. She had Oedema of limbs. She was not having any uterine contraction, and on examination no dilatation of the Os was found ; the convulsions continued. Patient died without being delivered, after being in Hospital for eight hours.

4. Admissions during the first decade of the opening of the King-Harman's Ward, 713.

1902	...	...	...	...	47
1903	...	...	...	...	29
1904	...	...	...	...	61
1905	...	...	...	...	74
1906	...	...	...	...	46
1907	...	...	...	...	60
1908	...	...	...	...	57
1909	...	...	...	...	97
1910	...	...	...	...	117
1911	...	...	...	...	125
					<u>713</u>

5. The following Infantile deaths were recorded among the cases admitted :—

Died within twenty-four hours after birth	2
Stillborn	11
Abortions (Premature birth)	17
<u>30</u>	

6. *Gynaecological Cases* during the year numbered 116, and included Fibroid growth of the Uterus, Endometritis, Irregular Menstruation, Amenorrhœa, Metrorrhagia, Polypus, Cancer of the Uterus, etc.; the subsequent attendances were 407.

Original and Research work done, and contributions to Museums, etc.,
BY MEDICAL OFFICERS.

A good quantity of material and large collections of flies, biting and otherwise, have been forwarded during 1911 to the Schools of Tropical Medicine, to the British Museum, and to the Cancer Research Committee.

It is interesting to note that among the biting flies collected by Dr. Murphy were found three new Species and one uncertain, and that Dr. Arbuckle also forwarded three new Species and one uncertain.

They are recognised as :—

Tabanidae	...	...	...	3 New Species.
Haematopota	...	...	...	2 „ „
Hypocentrum	...	...	...	1 „ „
Tabanidae	...	...	...	1 Species Uncertain.
Phlebotomus	...	...	...	1 „ „

Dr. McConaghy examined 100 slides of night blood taken from the school boys and found :—

M.F. Nocturna	...	...	10 per cent.
M.F. Perstans	...	...	1 „ „

Dr. Arbuckle examined 626 Children of all ages up to 16 and found 78 per cent. of them had enlarged spleens.

Table No. 2.

EXTRACT FROM RESEARCH RECORD BOOK FOR 1911.

Date.	Name.	Station.	Nature of Study.	Communicated to.
17-1-11.	Dr. Renner ...	Freetown ...	Section Cancerous Growth Cervix Uteri	Cancer Research
17-1-11.	„ Davson ...	do. ...	Section of Liver ...	do. do.
21-7-11.	„ Murphy ...	Daru ...	Blood Sucking Flies and Entomological Specimens	British Museum
21-7-11.	„ Pearson ...	Kaballa ...	Blood Sucking Flies and Entomological Specimens	do. do.
15-8-11.	„ Renner ...	Freetown ...	Cancerous Gland (Breast)	Cancer Research
15-8-11.	„ Murphy ...	Daru ...	Entomological Specimens	British Museum
24-10-11.	„ Arbuckle ...	Batkanu ...	Do. do.	do. do.
21-11-11.	„ Burrows ...	Freetown ...	Snakes, Spiders and Flies	London School of Tropical Medicine
6-10-11.	„ Pearson ...	Kaballa ...	Entomological Specimens	British Museum
4-11.	„ McConaghy...	Bo... ..	Filarial Index of 100 Cases	P.M.O.'s Office
11-11.	„ Arbuckle ...	Batkanu ...	Splenic Index of 626 Children	do. do.
8-11.	„ Butler ...	Freetown ...	Entomological Collection	London School of Tropical Medicine

THE NURSING HOME.

The number of admissions to the Home during 1911 was 6 less than the previous year, viz.: 54.

The admissions and deaths during the past 5 years were as follows:—

		1907	1908	1909	1910	1911
Cases ...	...	66	42	50	60	54
Deaths	...	4	3	1	4	nil

The patients were of the following classes:—

Officials ...	...	...	...	...	...	21
Mercantile	...	...	...	...	...	29
Shipping	...	...	...	...	...	4
						—
	TOTAL	...	...	...	...	54

The diseases were:—

Adenitis	...	...	...	...	...	1
Alcoholism	...	...	...	...	...	1
Anæmia	...	...	...	...	...	1
Appendicitis	...	...	...	...	...	1
Blackwater Fever	...	...	...	...	...	1
Bronchitis	...	...	...	...	...	2
Cystitis ...	...	...	...	...	...	1
Debility	...	...	...	...	...	2
Diarrhœa	...	...	...	...	...	1
Dyspepsia	...	...	...	...	...	2
Enteric Fever	...	...	...	...	...	1
Gastritis	...	...	...	...	...	1
Hepatitis	...	...	...	...	...	1
Influenza	...	...	...	...	...	4
Liver Abscess	...	...	...	...	...	1
Malarial Fevers	...	...	...	...	...	22
Peritonitis	...	...	...	...	...	1
Phthisis	...	...	...	...	...	1
Rheumatism	...	...	...	...	...	4
Syriasis ...	...	...	...	...	...	1
Tonsilitis	...	...	...	...	...	2
Ulcer ...	...	...	...	...	...	1
Wound ...	...	...	...	...	...	1

For amount paid in fees for admission and treatment, *see* Financial Statement.

THE GAOL.—FREETOWN.

(By DR. BURROWS.)

The Report on this Institution has been so consistently uniform that it is difficult to attempt originality. However, the temporary division into the Old and New Prisons effected by the erection of the New Prison on the site of the old Botanic Station gives some opportunity for comparative statements.

The system of Medical Control is as follows:—

Only those prisoners (convicts excepted) who are able-bodied and fit for hard labour are sent to the New Gaol, provided, of course, that the administrative requirements are met; so that with the exception of sudden and unforeseen illness or of accidents, the necessity for the immediate proximity of a Medical Officer is obviated. In case of either of those contingencies a Medical Officer can always be speedily procured.

About 100 prisoners reside in the New Prison as a rule; the remainder averaging 120 reside at the Old Prison, and as there are many whose condition is more or less “chronic” from a medical stand-point, the proximity of the Colonial Hospital and the facility for procuring speedy medical relief are all that can be desired. This is a factor to be dealt with in the medical control of the new establishment the scope of which, with the increasing administrative control of the Protectorate, is bound to be materially enlarged.

Sanitation.—The Sanitary measures adopted in both Institutions has been maintained up to the usual effective standard as no epidemics have occurred, and beyond the seasonal incidence of Chicken Pox and Dysentery, no disease of a spreading nature was encountered. The Dysentery outbreak which is an annual visitation early in the rains, was, however, milder in the year under report than in previous years. The returns under the heading of “Injuries” are higher than in previous years, but these were chiefly of a minor degree and inseparable from the construction work in progress at the New Prison. The deaths, 7 in number, were all due to unavoidable causes and attributable largely to old standing chronic disease.

The causes were:—

Rupture of Blood Vessel.
Heart Disease (2 Cases).
Bright’s ,,
Cirrhosis of Liver (2 Cases).
Ankylostomiasis.

It was found necessary to procure the release of 2 prisoners on medical grounds, and their release was justified by their deaths within 10 days in each case while undergoing further treatment in the Colonial Hospital.

There were seven executions all efficiently carried out.

The Quarterly reports forwarded for the information of H.E. the Governor and the Visiting Justices have called for no special comment, and the tables and statistics appended afford a graphic survey of the conditions prevailing in the year under report.

GAOL HOSPITAL.

ANNUAL MEDICAL RETURN FOR 1911.

Table A.

	Males.	Females.	Total.
Patients remaining in Hospital, 1st January, 1911 ...	3	—	3
„ admitted into Hospital during 1911 ...	175	7	182
Total number treated 1911 ...	178	7	185
Of these were—			
Cured ...	120	2	122
Relieved ...	49	4	53
Not Relieved ...	—	1	1
Died ...	7	—	7
Remaining in Hospital on 31st December, 1911 ...	2	—	2
Total ...	178	7	185
Number of Out-Patients treated ...			4,058
Total treated ...			4,243
Daily average number of Prisoners ...			225
„ „ „ „ treated ...			11

GAOL HOSPITAL.

Table B.

RETURN OF PRISONERS SEEN AND EXAMINED BY THE MEDICAL OFFICER
DURING THE YEAR 1911.

	Quarter ending March.	Quarter ending June.	Quarter ending September.	Quarter ending December.	Total.
Reported Sick daily ...	523	456	341	247	1,567
Sick placed under observation...	125	97	105	53	380
Sick admitted into Hospital ...	64	34	47	40	185
Convalescents on Light Labour ...	58	60	71	49	238
Examined for Solitary Confinement ...	72	148	163	89	472
Seen in Solitary Confinement ...	72	148	163	89	472
Examined for Corporal Punishment ...	6	7	1	3	17
New-comers, including Remands and Trials...	149	151	207	261	768
Number of Executions ...	2	3	1	1	7
Total ...	1,071	1,104	1,099	832	4,106

Table C.

RETURN SHOWING OUT-PATIENTS TREATED AT GAOL HOSPITAL DURING
THE YEAR 1911.

DISEASES.							Male.	Female.	Remarks.
INFECTIVE DISEASES.	Beri Beri	...	..	...	...	...	—	—
	Chicken Pox	...	...	...	...	...	28	—	
	Dysentery	...	...	...	...	...	—	—
	Gonorrhœa	...	...	...	...	...	32	—	
	Leprosy (a) Nodular	...	...	...	...	...	—	—
	(b) Anæsthetic	...	...	...	...	...	—	—
	Malaria (a) Tertian	...	...	...	...	...	98	3	
	(b) Quartan	...	...	...	...	...	—	—
	(c) Æstivo-Autumnal	...	...	...	...	...	—	—
	(d) Chronic Malaria	...	...	...	...	...	—	—
	(e) Blackwater	...	...	...	...	...	—	—
	Measles	...	...	...	...	...	—	—
	Pneumonia	...	...	...	...	...	—	—
	Influenza	...	...	...	...	...	—	—
	Trypanosomiasis	...	...	...	...	...	—	—
	Small Pox	...	...	...	...	...	—	—
	Syphilis (a) Primary	...	...	...	...	...	—	—
	(b) Secondary	...	...	...	...	...	—	—
	(c) Inherited	...	...	...	...	...	20	—	
	Tetanus	...	...	...	...	...	—	—
LOCAL DISEASES.	Tuberculosis...	...	...	...	...	...	—	—
	Yaws	...	...	...	...	...	—	—
	Yellow Fever	...	...	..	...	...	—	—
	Other Diseases	...	...	...	...	...	82	—	
	Febricula	...	...	...	...	...	3	—	
	INTOXICATIONS	...	...	...	...	...	—	—
	GENERAL DISEASES	...	..	...	...	...	141	23	
	Diseases of the Nervous System...	...	...	...	...	...	32	1	
	„ „ Eye	...	...	...	...	...	18	—	
	„ „ Ear	...	...	...	...	...	23	—	
	„ „ Nose	...	...	...	...	...	9	—	
	„ „ Circulatory System	...	...	...	...	...	20	1	
	„ „ Respiratory „	...	...	...	...	...	96	6	
	„ „ Digestive „	...	...	...	...	...	346	35	
	„ „ Lymphatic „	...	...	...	...	...	30	—	
	„ „ Urinary „	...	...	...	...	...	5	—	
	„ „ Generative System—Male Organs	...	...	...	...	...	25	—	
	„ „ „ „ —Female „	...	...	...	...	...	—	3	
	„ „ Organs of Locomotion	...	...	...	...	...	20	—	
	„ „ Connective Tissues	...	...	...	...	...	10	—	
	„ „ Skin	...	...	...	...	...	108	7	
	Injuries, General	...	...	...	...	...	—	—
	„ Local	...	...	...	...	...	49	—	
	Surgical Operations	...	...	...	...	...	—	—
	Tumours	...	...	...	...	...	—	—
	Malformations	...	...	...	...	...	—	—
	Poisons	...	...	...	...	...	—	—
	Parasites	...	...	...	...	...	15	—	
	Insecta	...	...	...	...	...	—	—
	Unclassified	...	...	...	...	...	13	1	
TOTAL							1,223	80	
Subsequent Attendances							2,333	422	
GRAND TOTAL							3,556	502	= 4,058

KISSY INSTITUTIONS.

These consist of a Lunatic Asylum for Male and Female patients, a Male and Female Incurable Hospital, an Infectious Diseases Hospital, used chiefly for isolation and treatment of Small Pox cases, an old Lazaretto for isolation and observation of persons landed from suspected ships; this is now superseded by the new Sanitary Station at the Lighthouse peninsula.

Drs. Campbell and Taylor were in charge during the year; the latter reports as follows:—

Lunatic Asylum.—There are 71 males and 38 females at the beginning of the year; and 25 males and 14 females were admitted during the year, 1911, making a total of 148 under treatment. Of these 11 were relieved and were discharged to the care of their friends, and 28 deaths occurred, leaving a total of 109 patients at the end of the year.

The causes of deaths were as follows:—Epileptic Exhaustion, Anæmia, Exhaustion, Phthisis, Enteritis, General Paralysis of the Insane, Tetanus, Dysentery, Paralytic Exhaustion and Chronic Bright's Disease.

There has been no epidemic amongst the inmates this year. Those of the lunatics who are lucid and physically fit are usually employed in doing garden work and also assist in laundry and sanitation.

The health of the inmates was on the whole satisfactory.

Male Incurable Hospital.—Seventy-four patients were in this old building at the beginning of the year, and 88 were admitted, making a total of 162 under treatment. Of these, 54 were discharged, and there were 47 deaths during the year, due to Exhaustion, Old Age, General Debility, Chronic Ulcers, Paralysis, Tertiary Syphilis and Diarrhœa. Remaining in the hospital on the 1st January, 1912, 61.

Leprosy Ward.—There were 8 cases at the beginning of the year, 3 admitted and 2 deaths. Remaining at ending of year, 9 cases.

Varieties—Nodular, 7; Anæsthetic, 2; Total, 9.

Female Incurable Hospital.—At the beginning of the year there were 33 patients, 50 were admitted during the year and 25 discharged; there were 23 deaths, due chiefly to Senile Debility, Paralysis, Diarrhœa, Tertiary Syphilis and Old Age. The number of patients remaining in the Hospital on January 1st, 1912 was 35.

Lazaretto.—During the year 45 Krooboyas were admitted under observation for 2 days from S.S. "Burutu," owing to a suspected outbreak of Small Pox during the voyage.

No outbreak of the disease occurred during their detention.

Infectious Diseases Hospital.—One case of Small Pox and 11 of Chicken Pox were admitted during the year, all Aborigines; they all recovered.

The case of Variola was sent from Tower Hill Barracks, it was of a mild type.

Vaccination.—Nil. Great work has been done in this direction during the preceding years, and in consequence of this persons requiring vaccination could not be found this year. I hope to find some cases during the year 1912.

Sanitation.—This has been carried out very satisfactorily this year. The food and water supply gave no cause for complaint.

Dispensary, Kissy.—The number of cases treated in this dispensary during the year 1911 was as follows :—New cases, 972 ; Old cases, 325. Total, 1297.

Dispensary, Wellington.—The number of cases treated in this dispensary during the year was as follows :—New cases, 786 ; Old cases, 618. Total, 1,404.

The prevailing diseases were Rheumatism, Bronchitis, Diarrhœa, Dysentery, Phthisis, Lumbago, Neuralgia, Ascariasis, Dyspepsia, Intermittent Fever and Ulcers.

The Out-patients' fees collected during the year amounted to 11s.

SHERBRO or BONTHE DISTRICT.

This Station was in charge of Drs. Orpen, Burrows and Butler during the year. The latter writes the report.

2. The Hospital Staff consisted of Dispenser Metzger, Nurse Johnson, and an apprentice. During the year what was formerly known as the Sherbro District, with Bonthe as its headquarters, was divided into two Administrative Districts—Northern Sherbro District and Sherbro or Bonthe District.

3. The Official Staff consisted of the District Commissioner, Assistant District Commissioner, and the Medical Officers mentioned above. The health of these was satisfactory, as was also that of the Native Official Staff. The average duration of illness of the Staff was 3·3 days, and the chief causes of illness were :—Sub-tertian Malaria, Rheumatism, and trivial Respiratory disorders.

4. The non-official European residents numbered between 30 and 40. They were chiefly connected with the Mercantile Firms, and they suffered principally from Malaria. There were two deaths from Blackwater Fever, there was also a third and fatal case of this disease in a Syrian.

5. The following improvements and alterations were made in the hospital during the year, viz. :—

(a) The closing in of the Eastern aspect of the verandah, it being fully exposed to tornadoes.

(b) The verandah on the Western aspect was also closed in to form an Operating Theatre.

(c) A Ward reserved for Europeans and Officials has been rendered mosquito proof.

(d) New quarters have been built of concrete blocks for the Dispenser.

6. *In-patients*.—These numbered 243 during the year—an increase of 30 over 1910. Fifteen deaths occurred among these, giving a percentage death-rate of 6.

The causes of death were as follows :—

Strangulated Hernia	...	...	...	...	1
Cardiac Disease	...	...	...	...	4
Privation	...	...	...	...	2
Dysentery	...	...	...	...	2
Chronic Diarrhoea	...	...	...	...	1
Meningitis (Middle ear disease)	...	...	...	...	1
Blackwater Fever	...	...	...	...	1
Elephantiasis Scroti (post operative shock)	...	...	...	...	1
Phthisis	...	...	...	...	1
Cirrhosis of Liver	...	...	...	...	1

The operations performed numbered 24, and this is capable of increase.

7. *Out-patients*.—These numbered 2,037 during the year, an increase of 103 over the previous year. Tropical Ulcers, Malaria, Syphilis, and Gonorrhoea predominated over the trivial disorders of the Respiratory and Digestive systems, which made up the remainder of the cases treated. No cases of Trypanosomiasis were seen. Elephantiasis is fairly frequent, and Leprosy was seen occasionally.

8. No Epidemics occurred during the year.

9. Vaccination was carried out as regularly as possible with the following results :—Total cases, 517; Successes 266, Failures 123, Not Seen 128. Dr. Butler points out that the lanolinated lymph proved satisfactory if it were used within a week of its arrival at the Station. The sample of Gold Coast lymph gave most satisfactory results, showing 100 per cent. successes in those who returned for inspection.

10. *Hospital Fees*.—During the year £35 19s. 6d. was collected. £14 8s. from the in-patients, and £21 11s. 6d. from the out-patients—a small falling-off of £3 as compared with 1910.

11. *Infectious Diseases Hospital*.—There was only one case admitted during the year.

12. *Prison*.—This Institution was regularly visited. All prisoners were examined on arrival and discharge. The health of the inmates was good.

PROTECTORATE DISTRICT REPORTS.

RONIETTA DISTRICT.

HEADQUARTERS—MOYAMBA.

1. Drs. Wood and Ward were in charge during the year. Within a few days after the close of the year, Dr. Ward, I regret to say, died after a short illness—before he had written the annual report ; so that the record of work done as shown by the Dispensary returns can only be given, and this is furnished by Dispenser Hooke.

2. There were 6 admissions on the sick list among European Officials during the year, and among Native Officials there were 25 admissions.

There were no deaths.

3. The out-patients treated at the Dispensary numbered :—

New Cases	...	...	...	...	1,431
Old Cases	...	...	...	...	2,400
Total	...	...	...	...	<u>3,831</u>

There were 34 patients treated in Hospital with 3 deaths.

The sum of £5 13s. 3d. was received from paying patients during the year.

4. *Vaccination*.—There were 96 vaccinations performed, of which 73 were successful. There was no outbreak of small-pox or other epidemic disease during the year.

5. The Sanitary condition of the Station was satisfactory. Three reports on vaccination and sanitary patrols were sent in by the late Dr. Ward during the year.

RAILWAY EXTENSION WORKS.

Report by Dr. Rollason who was in Medical charge during the year.

The extension began in the December of 1910 with headquarters at Roruks. On the 31st January, 1911, Dr. G. Rollason, who writes the report, and Dispenser Fraser, were attached to the staff. In February, 1911, headquarters were removed to Makurba ; and again, in October, 1911, to Kumrabai Mamilla.

Owing to the increase in the number of casualties, and the distances which they were obliged to travel, Dispenser T. M. Scott was also attached to the staff in October, 1911, and placed in charge of a dressing station at Yonni-bannah—14 miles from headquarters at Kumrabai-Mamilla, and 16 miles from Roruks.

During the year, 859 new cases were treated, and there were 1,023 subsequent attendances, making a grand total of 1882. The majority of these cases were minor casualties.

Bronchitis was prevalent during the rains, and a few cases occurred of Intermittent Fever.

There were 3 deaths during the year—1 from Dysentery, 1 from Acute Appendicitis, and 1 from shock after amputation of leg for severe injuries received in an accident on the line.

The health of the European Officials, who numbered 21 during the year, has been good.

The health of the Native Official Staff has also been satisfactory, and that of the labourers (of which there are between 2,000 and 3,000 working on the line) has also been good.

There is no accommodation for in-patients, all serious cases being treated in their homes.

Vaccination and Small-pox.—No cases of small-pox occurred during the year. Vaccination was not attempted, being considered inadvisable, owing to the difficulty experienced in procuring labour.

BO RAILWAY DISTRICT.

1. This station was in charge of Drs. McConaghy, Orpen and Wood-Mason during the year—the latter writes the report.

2. The number of Europeans resident in the locality during the year was :—

Officials	...	...	...	...	...	12
Non-officials	...	...	...	...	...	10
						<hr/>
Total	...	...	...	...	...	22
						<hr/>

The health of all Europeans was satisfactory. Among the European Officials, there were 16 admissions on the sick list for an average of 5 days per case. There were no deaths, but 1 case of invaliding for Chronic Dyspepsia.

3. Native Officials, including school boys and all Government employees entitled to free medical attendance, numbered 262—of these, there were 59 admissions on the sick list for an average of 14 days each case.

There were no deaths, but 1 was invalided for Rheumatic Synovitis.

4. There were 11 patients treated in the Hospital with 1 death.

The following operations were performed :—

Lipoma, removal of	...	...	...	...	1
Extravasation of Urine, relief of	...	...	...	...	1
Catheterisation	...	...	...	...	1
Elephantiasis Scroti	...	...	...	...	1
					<hr/>
Total	...	...	...	...	4
					<hr/>

5. Out-patients treated :—

New Cases...	...	...	...	...	1,691
Old Cases ..	...	...	...	...	792
Total					<u>2,483</u>

Fees collected from out-patients amounted to £2 16s. 6d., an increase of 14s. 6d. on the previous year.

The most prevalent diseases seen were Rheumatism, Constipation, Bronchitis and Dyspepsia.

6. Vaccination was performed throughout the year as opportunity afforded, but the people of Bo seem averse to it. Total Cases, 250; Successes 145, Failures 74, Not Seen 31.

There was no small-pox nor any other epidemic disease during the year.

7. The health of the pupils of the Government school has been on the whole good—there were no cases of serious illness.

8. The water supply of Bo is derived in the rainy season from tanks in which rain water is collected. The capacity of these tanks is, however, apparently insufficient, as for several months in the dry season drinking water has to be fetched from Kennema, being conveyed in 5-gallon aluminium receptacles by rail.

9. The Sanitary requirements of the Station are attended to by a gang of 11 labourers in the charge of a headman—these are under the supervision of the Medical Officer.

Dr. Wood-Mason states that few mosquitos are seen, but occasionally, *Stegomyia Calopus* are caught, and *Glossinæ* and *Tabanidæ* are also met with at different times of the year.

The total rainfall for 1911 was 119·74 inches.

KENNEMA RAILWAY DISTRICT.

Kennema is the headquarters of the Railway District, there is no Medical Officer stationed here, it is, however, visited weekly by the Medical Officer of Bo. There is a Dispensary and a Dispenser in charge.

2. The Medical Officers in charge of Bo and Kennema during the year were Drs. McConaghy, Orpen and Wood-Mason.

3. Dr. Wood-Mason writes the report, and states that there were 7 European Officials resident at or near Kennema during the year; two of these were placed on the sick list for Gastritis and Influenza respectively for a total of 14 days.

4. He goes on to say that the health of European Officials was good. There was also an average of 8 Non-official Europeans resident in the neighbourhood of Kennema, and they also enjoyed good health.

5. There were 21 Native Officials of whom 9 were on the sick list for a total of 95 days. Their health on the whole was good. The health of

the 25 Court Messengers was also satisfactory. One Native Official was invalided for Gumma of the Brain.

6. The total number of prisoners in the local prison was 259—their health was good and there was only one death, due to Cardiac Dilatation.

7. A new Dispensary built with sun-dried bricks was completed and opened towards the close of the year. The number of patients treated as out-patients was:—New cases, 1,252; Old cases, 2,435; Total, 3,687.

The most prevalent diseases were Constipation, Rheumatism, Bronchitis, Ulcers, Malaria and Dysentery.

The amount collected in out-patients' fees was £1 2s. 3d. being 17s. 3d. less than 1910. There is no Hospital at this Station at present.

8. *Sanitation*.—Earth closets are in use at the Station and their contents are disposed of daily in a trenching ground. Weekly inspections are made of the Court Messengers quarters and the prison.

The Water Supply is provided by a stream from the hills in the neighbourhood, being conveyed in pipes from a small dam. The water obtained is of good quality, being quite free from any likely source of contamination.

Vaccination was kept up during the year.

Total done, 198; Successes 129, Non-Successes 49, Not Seen 20. There was no small-pox reported.

DARU RAILWAY DISTRICT.

During the past year this Station has been in charge of Drs. Murphy and Orpen, and the latter writes the report. Dispenser C. Johnson was relieved by Dispenser J. J. Thomas.

The health of the Officers stationed at Daru (headquarters West Africa Frontier Force) has been fair; the chief cause of sickness being Malaria; one Officer was invalided during the past year suffering from Cystitis. Altogether 12 officers have been on the sick list for varying periods, making a total of 209 days or 17 days per head.

The number of Native Officials on the sick list was 7. Total number of days spent by Native Officials on the sick list, 40. The chief cause of sickness amongst Native Officials was Malaria. The general health of the Station has been fair. The number of the people seeking medical advice at the Hospital here shows a reduction in numbers when compared with 1910. By far the greatest number attending Hospital are Frontiers, as can be seen by the returns, *i.e.*, 106. New cases, other attendances, Officials and paupers 485. Amongst the cases seen at the Dispensary the following are the most common: Malaria, Gonorrhoea, Rheumatism, Constipation, Wounds (incised, punctured or lacerated); a very common complaint is cracked soles of the feet, a most troublesome complaint to treat. During the year 4 cases of Bilharzia were noted. Other parasites are often seen, especially *Ascaris*.

In-patients numbered 112; a reduction of 22 when compared with 1910. There was one death in the Hospital—a Frontier; cause of death, Pneumonia. During the year the new Hospital was completed and has proved to be

satisfactory, and is appreciated by the patients; the fact that there is a proper place will greatly help in the treatment when one remembers the former house where the work was carried out under a considerable handicap.

In-patients.—1910: 134 with 2 deaths; 1911: 112 with 1 death.

Out-patients.—1910: 3,278 including 1,568 subsequent attendances; 1911: 3,150 including 1,650 subsequent attendances.

Vaccination has been carried on during the year; I am glad to be able to report an increase in the number of cases.

Dr. Murphy reports that the new lanolinated lymph has proved to be satisfactory. In many cases it is impossible to be certain if the vaccination has been successful, as one seldom returns by the same route when on patrol; but local cases apparently gave a good percentage of success.

1910: number of vaccinations carried out, 238; 1911: number of vaccinations carried out, 563.

Patrols have been made throughout the district during the year, chiefly for purposes of vaccination and sanitary inspection. In all 13 patrols were made, also the routine visit to Kanre Lahun. Total number of days absent on patrol, 103.

Kanre Lahun.—This is a West African Frontier Force out-station of Daru, and is visited weekly by the Medical Officer.

This Station has greatly improved during the past year, owing to the removal of the Barracks to a much more healthy site, situated about half-a-mile from the native town, on a hill.

The old site was very bad, being in close proximity to the town, in fact, adjoining on one side, with a swamp on the other. No accurate details have been kept of the cases, as it would be impossible for the officer to do so.

The cases are much the same as those seen at Daru. One death occurred, the cause being Phthisis.

Bronchitis seems to be fairly common at this station—it may be due to the lower temperature.

Meteorological Observations have been kept at Daru throughout the year.

The rainfall has been smaller than the previous year. 1910: 95.40 inches; 1911: 89.78 inches.

Entomological Research.—Some hundreds of blood-sucking flies and insects have been captured and sent to Freetown for transmission to the British Museum (Entomological Section), chiefly tsetse flies and Tabanidae. Amongst the Non-official Europeans in the district there was a certain amount of Malaria. One case of Blackwater occurred at Pendembu. On the whole the health has been fair.

No epidemic occurred during the year.

Dr. Murphy reports that *Stegomyia Calopus* is to be found in this locality, but no cases resembling Yellow Fever were noticed.

No cases of Sleeping Sickness were observed.

KARENE DISTRICT.

HEADQUARTERS—BATKANU.

1. During the greater part of the year the Station was in medical charge of Drs. Arbuckle and McConaghy, and the latter writes the report.

The health of the European Officials has been good during the year, only one being on the sick list.

2. There were 66 Native Officials placed on the sick list, the chief diseases being affections of the Digestive and Pulmonary systems.

3. There were 1,498 out-patients treated in the dispensary, being an increase of 105 over last year. There were 2,569 subsequent attendances. The most common diseases treated were: Bronchitis, Rheumatism, and diseases of the Digestive system.

4. The amount collected in out-patients fees was £2 11s. 1d. 54 in-patients were treated in hospital, an increase of 43 over 1910. There has been one death in hospital, and one in prison.

5. Seven operations have been performed :—

- (a) Relief of Strangulated Hernia, with radical cure.
- (b) Removal of Carious Bone from Tibia.
- (c) Excision of portion of skin in a case of Elephantiasis of leg.
- (d) and (e) Evacuation of Perineal Abscess.
- (f) Removal of large Fibroma of scalp.
- (g) Removal of Sebaceous Cyst of neck.

The first five operations mentioned were performed under chloroform. Items *f* and *g* were performed under infiltration anæsthesia by Novocain.

6. Blood-films have been systematically examined for filaria.

7. Vaccination has been performed regularly during the year, 636 cases having been successfully vaccinated—mostly children. Some other cases have also been vaccinated, but there has been no opportunity for inspection afterwards.

8. Ten patrols have been undertaken during the year. The Chiefs and their people have been instructed in elementary hygiene; vaccination has been performed and children have been examined for enlarged spleen. A large number of people have received medical and surgical treatment from the Medical Officer on patrol.

9. At present biting flies are not very plentiful in the station, or in those parts of the district which I have had an opportunity of visiting. I have seen a few tsetse flies (*G. morsitans*) at Batkanu, and have captured two specimens of *Stegomyia Calopus* in the same place.

I have seen one specimen of *phletotomus*. The *Tabanidæ* are rare here.

KOINADUGU DISTRICT.

HEADQUARTERS—KABALLA.

This district was in charge of Drs. Pearson and Wood during the year and the latter writes the report.

2. *General Health*.—The general health of Officials and Court Messengers has remained good throughout the year. No deaths or invalidings have occurred. The health of the European Officials has been excellent.

3. *In-patients*.—Sixteen cases were treated in Hospital during the year with 2 deaths. Two successful operations for radical cure of hernia were performed.

4. *Out-patients*.—The number of cases treated was:—

New Cases	...	...	...	...	644
Old	„	...	...	...	240
					<u>884</u>

The chief complaints treated were Respiratory and minor Digestive, a fair number also being Cardiac, Rheumatic and Fever cases.

5. *Diseases*.—Goitre is extremely common in the district. Two cases of Madura foot were met with and many of Ophthalmia.

Leprosy.—Eight cases were met with on patrol.

Elephantiasis.—This is much less common than in other districts, only six cases being reported on patrol.

Syphilis and Trypanosomiasis.—No cases were reported during the year.

Enlarged Spleens.—Children were systematically examined when being vaccinated, and 80 per cent. were found to have palpably enlarged spleens.

6. *Vaccination*.—The results were as follows:—

Total cases, 1,327 ; Successes 559, Failures 212, Not Seen 556.

In parts of the district where the people were familiar with the ravages of small-pox within the last decade, vaccination is greatly appreciated.

Fees.—There being little circulation of money in the district only 13s. 6d. was collected by the sale of medicine.

Patrols.—Patrolling was undertaken for 201 days, an average of 16 days a month. Most of the large towns within easy range of headquarters were visited, vaccination carried out, and advice given to the Chiefs on the lines of Standing Instruction No. 5—*re* Sanitation.

Hospital.—The Hospital is composed of three native huts. The Dispensary is similar, and, being very ruinous, has been pulled down and is in process of reconstruction.

Sanitation.—During the year the gaol, barracks, latrines and native town were frequently inspected by the Medical Officer, the visits being entered in the Record Book. There is an excellent spring at headquarters giving an abundant supply of water all the year round. One cannot help being struck with the extreme paucity of mosquitos all through the district, even at the end of the rainy season, as compared with some districts. Bottles, Jujupots and similar receptacles are never met with in the villages, indeed the people have the greatest difficulty to find bottles to contain medicine, sometimes being prevented altogether from obtaining medicine from lack of a receptacle. Water is never stored in the houses, a fresh supply being obtained at the time when it is needed. Borrow pits are not usually numerous.

Flies.—Glossinae and Simulidae are widespread throughout the district.

Meteorological Observations were taken throughout the year. The highest temperature was 102° on March 29th and the lowest 40° on March 16th.

The Rainfall was slightly below that of 1910, being only 82·32 inches.

DISPENSARY DISTRICTS IN THE PENINSULA.

Regent.—This district was in charge of Dispensers Nylander and McCauley during the year at different times; the latter wrote the report. The attendances at the Dispensary were as follows:—

New cases...	...	...	...	...	963
Old „ ...	...	..	...	...	1,510
					<hr/> 2,473

Of these 14 were Native Officials, and 26 Civil Police. The prevailing diseases were Bronchitis, Rheumatism, Fever, diseases of the Digestive system and Skin diseases. The people use quinine freely. Simple sanitary measures, such as the removal of broken bottles, old tins, &c., are carried out in Regent and the neighbouring villages.

There was no outbreak of small-pox during the year.

Vaccination was kept up with the following results:—

Total cases.	Successful.	Unsuccessful.	Not seen.
187	138	39	10

Waterloo.—This district was in charge of Dispensers Thomas and Luke. The latter sends in the report as follows:—

The general health was good; there was no outbreak of any infectious disease.

The total number of cases treated was:—

New cases	...	...	...	...	2,433
Old „ ...	...	..	..	...	2,072
					<hr/> 4,505

The common diseases being Fever, Debility, Rheumatism, Dyspepsia, Constipation and Ulcers.

The sanitary condition of Waterloo and other villages was fairly satisfactory. The water supply is good, being laid on in pipes from a stream flowing from a hill in the locality.

Vaccination was carried on during the year—135 persons were vaccinated, and of these 77 were successful, 27 unsuccessful and 31 not seen. Mr. Luke states that the people do not freely submit to vaccination, it is not compulsory, and some persuasion is necessary to get them to submit to it.

Hastings.—This is attended once a week by the Dispenser at Waterloo. The health of the district was good, and there was no outbreak of any infectious disease. The number of attendances at the Dispensary was:—

New cases	...	...	...	...	1,215
Old	„	...	...	...	1,133
					<hr/>
					2,348
					<hr/>

The usual diseases were met with. There were 87 persons vaccinated; with 41 successful, 19 failures, and 27 not seen.

York.—This district was in charge of Dispenser M. O. Fraser during the past year. The attendances at the Dispensary were as follows:—

New cases...	...	...	...	...	1,582
Old	„	...	...	...	919
					<hr/>
					2,501
					<hr/>

Vaccination results were: Total vaccinated, 191; successes, 81; failures, 75; not seen, 35.

There were no outbreaks of infectious diseases during the year.

Bananas Island.—This Dispensary district was in charge of Dispenser D. M. Thomas during the year. The following number of cases were treated:—

New cases...	...	...	...	...	2,059
Old	„	...	...	...	2,830
					<hr/>
					4,889
					<hr/>

The prevailing complaints were:—Rheumatism, Yaws, Constipation, Bronchitis, Intestinal parasites, Dyspepsia, Ulcers and Debility. There was no small-pox or other infectious disease outbreak during the year. Vaccination was kept up, the total number performed being 46.

Ordinary Sanitary measures have been attended to with a certain amount of success. The water supply on the island is as a rule provided by digging wells, there being no natural springs or streams capable of yielding a permanent supply.

Mano Salija.—This station was in charge of Dispenser J. Anderson during the year. The number of cases treated was 1,396; the usual complaints were met with.

This station is situated at a very low level and is surrounded more or less by mangrove swamps, with the result that mosquitos and other members of the flying insect family are fairly abundant; being, however, situated on the coast facing the Atlantic, the strong sea-breeze tends to keep down the number of mosquitos, etc. The water supply has its source chiefly in stagnant pools in the dry season.

313 persons were vaccinated during the year, with a fair number of successes.

There were no cases of small pox during the year.

Sumbuyah.—This is a new Dispensary station, opened in May, 1911. Dispenser P. J. John was in charge and reports on the work done from 25th May to 31st December. Sumbuyah is the headquarters of an important trading sub-district of the Railway District, in which, being in an outlying part of the district and not within easy reach of a Medical Officer, it was considered necessary to place a Dispensary in charge of a Dispenser.

The cases treated between May and December were :—

New Cases	...	...	...	...	...	1,334
Old	„	...	...	...	...	589
						<hr/> 1,923 <hr/>

The general health of the inhabitants seems to have been fairly good. Vaccination was carried on, and during the 7 months 117 cases were vaccinated, with 66 successes, 49 failures and 2 not seen. People are rather opposed to Vaccination, but this is evidently due to ignorance of the benefits derived from the operation. The water supply is obtained from the Bum River which, owing to possible contamination from villages on or near its banks, cannot be considered satisfactory as drinking water without boiling and filtering.

There was no outbreak of small-pox reported during the year.

Goderich.—This Dispensary is visited weekly by the Prison Dispenser from Freetown. Dispenser P. Q. A. John attended during the year.

The following cases were treated :—

New cases...	...	...	...	...	956
Old	„	...	...	...	1,549
					<hr/> 2,505 <hr/>

There was no outbreak of small-pox.

There were 124 vaccinations performed, with 97 successes.

37. During the year, 1911 the total number of patients treated at the Colonial Hospital, Freetown, and the various out-station Hospitals and Dispensaries, numbered :—

In-patients...	...	...	...	...	2,570
Out-patients	...	...	...	...	83,103
Total...					<u>85,673</u>

The amount in fees, &c., received from these was as follows:—

Hospital paying In-patients, &c. ...	£471	17	5
Out-patients' fees for medicine ...	53	1	9
<u>£524 19 2</u>			

The total number of patients treated was 1,421 less than in the previous year, there being a slight falling off at both the out-stations and Freetown.

38. The first Annual Report by the Senior Sanitary Officer forms an important part of the Annual Medical Report for 1911, and a copy is attached. Some interesting photographs accompany Dr. Kennan's report.

39. The usual returns are attached.

R. M. FORDE,

Principal Medical Officer,

July 2nd, 1912.

Sierra Leone.

Table III.

RETURN OF STATISTICS OF POPULATION FOR THE YEAR.

	Europeans and Whites.	Africans.	East Indians.	Syrians.	Mixed and Coloured.
Number of Inhabitants in 1911	558	34,090	24	175	165
„ „ Births during the year 1911	—	501	—	—	—
„ „ Deaths „ „ „ 1911	—	747	—	—	—
„ „ Immigrants „ „ „ 1911	}	not recorded.			
„ „ Emigrants in 1911					
„ „ Inhabitants in 1901	345	34,463	Nil.	41	—
Increase	213	—	24	134	—
or					
Decrease	—	373	—	—	—

=====

Table IV.

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR
IN THE TOWN.

1. Name of Town : FREETOWN.

					Approximate area.	Number of proclaimed open spaces.
1910	...	...	...	...	2 $\frac{3}{4}$ square miles.	2 Public Recreation Grounds.
1911	...	...	...	...
1912	...	...	...	...

2. Population.

				No. of Natives.		No. of Europeans.		Total.
				Males.	Females.	Males.	Females.	
1910	...	...	...	33,363		558		34,090 { Census 1911.
1911	...	...	...		
1912	...	...	...		

3. Housing.

Syrians	...	145
Indians	...	21
Other Asiatics	...	3

				Number occupied by Europeans.	Number occupied by Natives.
Number of Houses :—					
1910	...	...	...	61	4,788
1911	...	...	...
1912	...	...	...

Note :—Unoccupied houses not included.

Number of Huts :—			
1910	...	...	...
1911	...	...	...
1912	...	...	...

4. Mosquito Protection of Houses.

	1910.	1911.	1910.
Number of European houses wholly mosquito protected		Nil.	
Number of European houses with mosquito room		—	
Number rendered during the year wholly mosquito protected		—	
Number rendered during the year partially mosquito protected		—	

5. Erection of New Buildings during the Year. Vide P.S.

	1910.	1911.	1912.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings.			
Number of houses erected with sanction as to site, construction, and relation to other buildings.			
Number of huts erected with sanction as to site, construction, and relation to other buildings.			
Number of houses built without sanction			
Number of huts built without sanction			

Action taken :—

—	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1910				1
1911				
1912				

6. Markets.

—					Total number.	Number paved and drained.	Number unpaved.
1910					5	4	1
1911							
1912							

7. Slaughter-houses.

—					Total number.	Total paved and drained.	Number unpaved.
1910					1	1	
1911							
1912							

8. Latrines.

—						For Males.		For Females.	
						Number.	Number of Seats.	Number.	Number of Seats.
Number of Public Latrines :—									
1910						—	—	—	—
1911						9	23	9	21
1912						—	—	—	—
Number of New Public Latrines erected during year :—									
1910						—	—	—	—
1911						Nil.	—	Nil.	—
1912						—	—	—	—
Number of Public Latrines repaired during year :—									
1910						—	—	—	—
1911						Nil.	—	Nil.	—
1912						—	—	—	—
Number of Public Latrines demolished during year :—									
1910						—	—	—	—
1911						Nil.	—	Nil.	—
1912						—	—	—	—

—							1910.	1911.	1912.
Number of Private Latrines *							—	47	—
Average number of pails of nightsoil removed daily							—	126	—
Average number of soiled pails removed and clean pail substituted							—	—	—
Number of nightsoil men employed to clean latrines and remove excreta							—	54	—
Number of cesspools							—	3,351	—
Number of cesspools cleansed							—	2,231	—
Number of new cesspools constructed during the year							—	212	—
Number of old cesspools abolished							—	143	—
Number of cesspools oiled regularly by Department							—	1,680†	—

* Includes Schools.

† August to December.

9. Removal of refuse.

	1910.	1911.	1912.
Number of dustbins	—	54	—
Number of carts at work daily to remove refuse from streets ...	—	3	—
Amount of refuse removed daily	—	—	—
Number of carts at work daily to remove refuse from yards and premises	—	3	—
Amount of refuse removed from streets, yards and premises ...	—	29,828½	Sanitary ham-mock loads Aug. to Dec.
Number of men employed for moving refuse	—	30 to 50	

10. Mode of disposal of excreta, refuse, and ofial.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Ofial.		
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.
Burial or trenched	—	—	—	—	—	—	—	—	—
Burnt	—	—	—	—	—	—	—	—	—
Thrown into Sea	—	—	—	—	—	—	—	—	—
*Otherwise dealt with	—	—	—	—	—	—	—	—	—

* State mode of disposal.

11. Total number of canoe loads of tin cans, bottles, broken crockery and other incom-bustible material removed from houses, huts, and compounds and dumped in sea.

1910.	1911.	1912.
1,020	1,574	—

12. Water Supply.

Nature of Water Supply.	1910.	1911.	1912.
Pipe-borne water :—			
Source (river, lake or spring) :—		Streams	
Number of linear yards	—	—	—
Number of stand pipes along roads	—	180	—
Number of stand pipes in compounds and houses	—	194	Premises about 500 taps on the whole.
Wells :—			
Public :—			
Number	—	—	—
Number with pumps protected against surface water and mosquito-protected	—	—	—
Private :—			
Number	—	638	—
Number protected against surface water and mosquito-protected	—	4	—
Tanks :—			
Public :—			
Number underground	—	—	—
Number mosquito-protected and served by pumps	—	—	—
Number above ground	—	—	—
Number mosquito-protected	—	—	—
Number of 400 gallons capacity or less	—	—	—
Number above 400 gallons	—	—	—

Nature of Water Supply.									1910.	1911.	1912.
Tanks :—											
Private :—											
Number underground									—	—	—
Number mosquito-protected									—	—	—
Number above ground									—	—	—
Number mosquito-protected									—	57	—
Number of 400 gallons capacity or less									—	—	—
Number above 400 gallons									—	—	—
Nature of tanks :—											
Wood									—	—	—
Iron									—	45	—
Concrete									—	12	—
Barrels :—											
Number									—	782	—
Number mosquito-protected									—	84	—

13. Drainage.

Nature of Drainage.							Public.	Private.
Masonry Drains :—								
Lineal yards of masonry drains :—								
1910							—	—
1911							—	—
1912							—	—
Lineal yards reconstructed during the year :—								
1910							—	—
1911							—	—
1912							—	—
Lineal yards repaired during the year :—								
1910							—	—
1911							—	—
1912							—	—
Lineal yards of new drains constructed during the year :—								
1910							—	—
1911							300 yards.	—
1912							—	—
Earth drains or ditches :—								
Number of linear yards of ditches cleaned :—								
1910							—	—
1911							3,760 yards.	—
1912							—	—
Number of linear yards of ditches dug and graded :—								
1910							—	—
1911							9,570 yards.	—
1912							—	—
Average frequency of clearing ditches of grass :—								
1910							—	—
1911							—	—
1912							—	—

14. Clearance of undergrowth, long grass, and jungle.

	1910.	1911.	1912.
Number of square yards of weeds, grass, and vegetation cut and removed	—	—	—
Average frequency of clearance of rank vegetation on same area	—	—	—

15. Excavations and low-lying land.

—	1910.	1911.	1912.
Number of pools and excavations	—	100	—
Number of excavations filled up	—	20	—
Amount of low-lying and marsh land raised and drained	—	—	—
Number of pools, marshes, streams, etc., fish-stocked	—	—	—
Number of cubic yards of material used for filling up pools and excavations	—	260 tons (approx.)	—
Number of persons fined for making new excavations	—	—	—
Average number of men daily employed in filling up pools, etc. ...	—	—	—

16. Oiling.

—	1910.	1911.	1912.
Number of drains oiled	—	4144 Aug. to Dec.	—
Number of pools and excavations oiled	—	—	—
Number of tanks and barrels oiled	—	—	—
Average number of men daily employed for oiling drains, pools, watertanks or barrels	—	3	—

17. Inspections and Prosecutions.

—	1910.	1911.	1912.
Number of inspectors employed	—	17	—
Number of inspections	—	32824 (6 months July to Dec.)	—
Number of times larvæ were found	—	1350	—
Number of notices served to remove conditions causing the breeding of larvæ	—	—	—
Number of fines for having mosquito larvæ on premises	—	1084, 20 cases awaiting trial on 31st Dec.	—
Number of notices served to remove insanitary conditions on premises	—	1334	—
Number of persons fined for not removing insanitary conditions after notice	—	72	—
Number of soda and aerated water factories inspected	—	—	—

P.S.—Re Head 5. The Director of Municipal Works reports:—

1. This Department is never notified about the erection of Public Buildings.
2. This Department has no control with regard to site, etc., but can only state that the numbers of notices of commencement to build and notices of completion signed in this Office for the (three) years is as follows:—

	1910.	1911.
Commencement	111	172
Completion	2	12
3. So far as the erecting of huts goes we are not aware of any.
4. None.
5. None.

EXPLANATORY NOTES ON SUMMARY OF ROUTINE SANITARY WORK DONE
DURING THE YEAR IN THE TOWN OF FREETOWN.

Head 2. The figures are from the census of 1911.

„ 6. “Markets” refers to buildings; there are also “places” authorised as Markets.

9. "Dust-bins" do not include 60 Tin and Bottle Bins.

“Amount of Refuse.” Removal by Carts, Sanitary Hammocks, Baskets, etc.

Information concerning Head 1, from Public Works Department.

„ „ „ 2, „ Compiler of Census.

„ „ „ 3, Municipal Offices.

” ” ” 4, ” ”

” ” ” 5, ” ”

„ „ „ 6, „ „ Sanitary Department of Corporation.

7,

” ” ” ” ” ” ” ” ”

” ” ” §, ” ” ” ” ” ” ” ” ” ”

” ” ” 9, ” ” ” ” ” ” ” ” ”

” ” ” 10, ” ” ” ” ” ” ” ” ”

” ” ” 11. ” ”

„ „ „ 12, „ „ Water Works Department Corporation, and
Sanitary Department.

„ „ „ 13, „ „ Public Works Department.

” ” ” 14, ” ” ” ” ” ”

” ” ” 15, ” ” ” ” ” ” ”

„ „ „ 16, „ „ Sanitary Department Corporation.

” ” ” 17, ” ” ” ” ” ” ”

N.B.—The following are concerned and do work under Head 14—Public Works Department; Prison Department; Railway Department; Sanitary Department Corporation.

Head 2. Census of Europeans includes 50 on board ships in harbour on census night; and Europeans, etc., at Military Barracks, at Mounts Aureol and Kortright; but not Hill Station or Wilberforce Barracks.

Table IV.

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN.

1. Name of Town : BONTHE.

—				Approximate area.	Number of proclaimed open spaces.
1910		
1911		
1912		

2. Population.

—				No. of Natives.		No. of Europeans.		Total.
				Males.	Females.	Males.	Females.	
1910	...	...		4,557		36		4,616
1911	...	...				
1912	...	...				

Syrians, 20 ; Indians, 3.

3. Housing.

—				Number occupied by Europeans.	Number occupied by Natives.	York Island.
Number of Houses :—						Natives 859
1910	...	...		11	897	Europeans 5
1911	...	...		11	909	Syrians 4
1912	...	...				Total... 868

Number of Huts :—

1910	...	...
1911	...	...
1912	...	...

4. Mosquito Protection of Houses.

—				1910.	1911.	1912.
Number of European houses wholly mosquito protected						
Number of European houses with mosquito room						
Number rendered during the year wholly mosquito protected						
Number rendered during the year partially mosquito protected						

5. Erection of New Buildings during the Year.

—				1910.	1911.	1912.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings				—	—	
Number of houses erected with sanction as to site, construction, and relation to other buildings				1	—	
Number of huts erected with sanction as to site, construction, and relation to other buildings				8	12	
Number of houses built without sanction				—	—	
Number of huts built without sanction				—	—	

Action taken :—

—	Number of Prosecutions.		Number demolished.	
	Huts.	Houses.	Huts.	Houses.
1910				
1911				
1912				

6. Markets.

—	Total Number.	Number paved and drained.	Number unpaved.
1910			
1911	2	2	
1912			

7. Slaughter-houses.

—	Total number.	Number paved and drained.	Number unpaved.
1910	1	1	
1911	1	1	
1912			

8. Latrines.

—	For Males.		For Females.	
	Number.	Number of seats.	Number.	Number of seats.
Number of Public Latrines :—				
1910			3	
1911			5	
1912				
Number of New Public Latrines erected during the year :—				
1910				
1911				2 with 6 seats each.
1912				
Number of Public Latrines repaired during the year :—				
1910				
1911			2	
1912				
Number of Public Latrines demolished during the year :—				
1910				
1911				
1912				

—	1910.	1911.	1912.
Number of Private Latrines			
Average number of pails of nightsoil removed daily	2	4	
Average number of soiled pails removed and clean pail substituted			
Number of nightsoil men employed to clean latrines and remove excreta			
Number of cesspools		Nil	
Number of cesspools cleansed			
Number of new cesspools constructed during the year			
Number of old cesspools abolished			
Number of cesspools oiled regularly by Department			

9. Removal of refuse.

	1910.	1911.	1912.
Number of dustbins	—	19	—
Number of carts at work, if employed daily to remove refuse from streets	—	—	—
Amount of refuse removed daily (sanitary hammock loads) ...	—	49	—
Number of carts at work daily to remove refuse from yards and premises	—	—	—
Number of cartloads of refuse removed daily from yards and premises	—	—	—
Number of men employed for removing refuse	—	16	—

10. Mode of disposal of excreta, refuse, and offal.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.
Burial or trenched	—	—	—	—	—	—	—	—	—
Burnt	—	—	—	—	—	—	—	—	—
Thrown into Sea	—	—	—	—	—	—	—	—	—
*Otherwise dealt with	—	—	—	—	—	—	—	—	—

* Stock mode of disposal.

11. Average daily number of hammock loads of tin cans, bottles, broken crockery, and other incombustible material removed from houses, huts, and compounds.

1910.	1911.	1912.
28	40	—

12. Water Supply.

Nature of Water Supply.	1910.	1911.	1912.
Pipe-borne water :—			
Source (river, lake or spring) :—			
Number of linear yards	—	—	—
Number of stand pipes along roads	—	—	—
Number of stand pipes in compounds and houses ...	—	—	—
Wells :—			
Public :—			
Number	1	10	—
Number with pumps protected against surface water and mosquito-protected	1	10	—
Private :—			
Number	117	126	—
Number protected against surface water and mosquito-protected	20	20	—
Tanks :—			
Public :—			
Number underground	—	—	—
Number mosquito-protected and served by pumps ...	—	—	—
Number above ground	3	3	—
Number mosquito-protected	3	3	—
Number of 400 gallons capacity or less	—	—	—
Number above 400 gallons	3	3*	—

* Two of 16,000 gallons each.

Nature of Water Supply.								1910.	1911.	1912.
Tanks :—										
Private :—										
Number underground								—	—	—
Number mosquito-protected								—	—	—
Number above ground								—	—	—
Number mosquito-protected								—	—	—
Number of 400 gallons capacity or less								—	—	—
Number above 400 gallons								—	—	—
Nature of tanks :—										
Wood								—	—	—
Iron								—	—	—
Concrete								4	4	—
Barrels :—										
Number								—	—	—
Number mosquito-protected								—	—	—

13. Drainage.

Nature of Drainage.						Public.	Private.
Masonry Drains :—							
Lineal yards of masonry drains :—							
1910						255 yards.	—
1911						285 $\frac{1}{3}$ „	—
1912						—	—
Lineal yards reconstructed during the year :—							
1910						—	—
1911						12 $\frac{2}{3}$ yards.	—
1912						—	—
Lineal yards repaired during the year :—							
1910						—	—
1911						—	—
1912						—	—
Lineal yards of new drains constructed during the year :—							
1910						—	—
1911						30 $\frac{1}{3}$ yards.	—
1912						—	—
Earth drains or ditches :—							
Number of linear yards of ditches cleaned :—							
1910						—	—
1911						1,316 yards.	—
1912						—	—
Number of linear yards of ditches dug and graded :—							
1910						1,250 yards.	—
1911						2,632 „	—
1912						—	—
Average frequency of clearing ditches of grass :—							
1910						—	—
1911						—	—
1912						—	—

14. Clearance of undergrowth, long grass, and jungle.

	1910.	1911.	1912.
Number of square yards of weeds, grass, and vegetation cut and removed	—	—	—
Average frequency of clearance of rank vegetation on same area ...	—	—	—

15. Excavations and low lying land.

—	1910.	1911.	1912.
Number of pools and excavations		14	
Number of excavations filled up			
Amount of low-lying and marsh land raised and drained			
Number of pools, marshes, streams, &c., fish-stocked... ..			
Number of cubic yards of material used for filling up pools and excavations			
Number of persons fined for making new excavations			
Average number of men daily employed in filling up pools, &c. ...			

16. Oiling.

—	1910.	1911.	1912.
Number of drains oiled			
Number of pools and excavations oiled			
Number of tanks and barrels oiled			
Average number of men daily employed for oiling drains, pools, water tanks or barrels			

17. Inspections and Prosecutions.

—	1910.	1911.	1912.
Number of inspectors employed	7	5	
Number of houses inspected			
Number of houses where larvæ were found... ..		48	
Number of notices served to remove conditions causing the breeding of larvæ	20	22	
Number of persons fined for having mosquito larvæ on premises ...		28	
Number of notices served to remove insanitary conditions on premises			
Number of persons fined for not removing insanitary conditions after notice... ..	56	57	
Number of soda and aerated water factories inspected			

YORK ISLAND—(vide 2.)

Inspector	1
Labourers	3
Public pump wells	3
„ tank (16,000 galls.)	1
„ latrine	1

Table V.

METEOROLOGICAL OBSERVATIONS AT FREETOWN DURING 1911.

MONTHS.		TEMPERATURE.						RAINFALL.		WINDS.		REMARKS.
		Solar Maximum.	Maximum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Forc.	
January	...	130·0	56·8	91·3	73·8	17·5	82·5	0·01	79·0	W	3	
February	...	133·0	61·2	91·7	74·2	17·5	82·9	0·07	76·0	W	3	
March	...	135·8	60·6	92·0	74·5	17·5	83·2	0·02	75·9	W	2	
April	...	138·5	63·6	91·7	75·2	16·5	83·4	0·66	75·0	W	2	
May	...	135·7	66·8	87·8	74·5	13·3	76·1	4·00	82·0	W	2	
June	...	135·9	71·9	86·6	71·8	14·8	79·1	15·52	84·0	W	2	
July	...	134·5	70·8	84·1	71·7	12·4	77·9	26·05	88·0	W	1	
August	...	128·2	67·2	82·0	71·0	11·0	76·5	36·08	90·0	W	2	
September	...	134·7	65·9	85·1	71·8	13·3	78·4	33·04	87·0	W	2	
October	...	137·8	59·7	85·1	70·9	14·2	78·0	14·23	82·0	W	2	
November	...	135·3	—	89·3	73·0	16·3	86·1	6·00	80·0	W	3	
December	...	130·6	—	89·5	72·9	16·6	81·2	0·91	79·0	W	1	
Total	...	134·1	64·4	88	72·9	15	80·4	146·59	81	W	2	

Table VA.

METEOROLOGICAL OBSERVATIONS AT OUT-STATIONS DURING 1911.

STATION.		TEMPERATURE.						Relative Humidity.	Total Rainfall.	Number of Days that Rain fell.	Greatest amount on one Day.	REMARKS.
		Mean Maximum.	Mean Minimum.	Average Mean.	Mean Diurnal Variation.	Highest Recorded.	Lowest Recorded.					
Kaballa	...	89°	57·42	73·2	32°	100°	41°	71	80·133	146	INS. 2·25	
Batkanu	...	90·77	73·4	81·26	19°	92·8	60°	77	107·73	177	4·58	
Daru	...	89·28	68·89	79·73	20°	97·8	55°	80	87·20	163	2·45	
Bo	...	88·08	69·36	78·72	18°	99°	58·8	78	119·16	193	7·08	
Bonthe	...	No	Instruments.					83	149·63	181	5·55	

Table VI.

RETURN OF DISEASES AND DEATHS, COLONIAL HOSPITAL, FREETOWN.
IN-PATIENTS, 1911.

Diseases.	Remaining in Hospital at end of 1910.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1911.
		Admissions.	Deaths.		
INFECTIVE DISEASES—					
Beri-Beri	—	4	1	4	1
Cerebro-Spinal Fever	—	—	—	—	—
Chicken Pox	—	2	—	2	—
Cholera	—	—	—	—	—
Dengue	—	—	—	—	—
Diphtheria	—	—	—	—	—
Dysentery	—	26	12	26	—
Endocarditis (Infective)	—	—	—	—	—
Enteric	—	1	—	1	—
Erysipelas	—	1	—	1	—
Gonorrhœa	—	12	—	12	—
Influenza	—	5	—	5	1
Kala-Azar	—	—	—	—	—
Leprosy—					
(a) Nodular	—	—	—	—	—
(b) Anæsthetic	—	—	—	—	—
Malaria—					
(a) Tertian	—	6	—	6	—
(b) Quartan	—	—	—	—	—
(c) Æstivo-Autumnal	3	68	—	71	—
(d) Chronic Malaria	—	27	2	27	1
(e) Blackwater	—	1	—	1	—
Measles	—	—	—	—	—
Malta Fever	—	—	—	—	—
Plague	—	—	—	—	—
Pneumonia	—	56	23	56	1
Rabies	—	—	—	—	—
Relapsing Fever	—	—	—	—	—
Rheumatic Fever	—	—	—	—	—
Septicæmia	—	2	2	2	—
Small Pox	—	—	—	—	—
Syphilis—					
(a) Primary	—	6	—	6	—
(b) Secondary	—	15	—	15	—
(c) Inherited	—	—	—	—	—
Tetanus	—	11	4	11	1
Trypanosomiasis (Sleeping Sickness)	—	—	—	—	—
Tuberculosis	1	18	7	19	—
Whooping Cough	—	—	—	—	—
Yaws	—	2	—	2	—
Yellow Fever	—	—	—	—	—
Pyæmia	—	1	1	1	—
INTOXICATIONS—					
Alcoholism	—	3	—	3	—
Morphinism	—	—	—	—	—
Others	—	1	—	1	—
Carried forward ...	4	268	52	272	5

RETURN OF DISEASES AND DEATHS IN 1911 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1910.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1911.
		Admissions.	Deaths.		
Brought forward ...	4	268	52	272	5
GENERAL DISEASES—					
Anæmia	—	26	2	26	2
Anæmia (Pernicious)	—	—	—	—	—
Diabetes	—	—	—	—	—
Exophthalmic Goitre	—	—	—	—	—
Gout	—	—	—	—	—
Leucocythæmia	—	—	—	—	—
Hodgkin's Disease	—	—	—	—	—
Myxœdema	—	—	—	—	—
Purpura	—	—	—	—	—
Rickets	—	—	—	—	—
Scurvy	—	—	—	—	—
Rheumatism	4	59	—	63	5
Senility	—	1	1	1	—
LOCAL DISEASES.					
DISEASES OF THE NERVOUS SYSTEM—					
Sub-section 1.					
Neuritis	—	2	—	2	—
Meningitis	—	6	1	6	—
Myelitis	—	—	—	—	—
Hydrocephalus	—	—	—	—	—
Encephalitis	—	1	—	1	—
Abscess of Brain	—	—	—	—	—
Congestion of Brain	—	—	—	—	—
Tumour of Brain	—	1	—	1	1
Neurasthenia	—	2	—	2	—
Posterior Spinal Sclerosis	—	1	—	1	—
Sub-section 2.					
Apoplexy	—	1	—	1	—
Paralysis	1	15	3	16	—
Chorea	—	—	—	—	—
Epilepsy	—	4	—	4	—
Neuralgia	—	11	—	11	—
Hysteria	—	2	—	2	—
Cerebral Hæmorrhage	—	1	1	1	—
Concussion	—	3	2	3	—
Tabes Dorsalis	—	1	—	1	—
Sub-section 3.					
MENTAL DISEASES—					
Idiocy	—	—	—	—	—
Mania	—	4	—	4	—
Melancholia	—	—	—	—	—
Dementia	—	1	—	1	—
Delusional Insanity... ..	—	4	—	4	—
DISEASES OF THE EYE—					
Conjunctivitis	—	9	—	9	1
Keratitis	—	1	—	1	—
Ulceration of Cornea	—	1	—	1	—
Iritis	—	1	—	1	—
Optic Neuritis	—	—	—	—	—
Cataract	—	1	—	1	—
Irido-Cyclitis	1	—	—	1	—
Scleritis	—	1	—	1	—
Dilatation of Pupil	—	1	—	1	—
Carried forward ...	10	429	62	439	14

RETURN OF DISEASES AND DEATHS IN 1911 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1910.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1911.
		Admissions.	Deaths.		
Brought forward ...	10	429	62	439	14
DISEASES OF THE EAR—					
Inflammation	—	—	—	—	—
Other Diseases	—	—	—	—	—
DISEASES OF THE NOSE—					
Coryza	—	1	—	1	—
DISEASES OF THE CIRCULATORY SYSTEM—					
Pericarditis	—	1	1	1	—
Endocarditis... ..	—	1	—	1	—
Valvular—Mitral	—	8	1	8	1
Aortic	—	8	2	8	—
Tricuspid	—	—	—	—	—
Pulmonary	—	—	—	—	—
Arterial Sclerosis	—	—	—	—	—
Aneurism	—	1	1	1	—
Cardiac Dilatation	—	3	1	3	—
Morbus Cordis	—	6	1	6	1
Cardiac Failure	—	1	1	1	—
Myocarditis	—	3	1	3	—
DISEASES OF THE RESPIRATORY SYSTEM—					
Laryngitis	—	2	—	2	—
Bronchitis	1	32	2	33	4
Broncho-Pneumonia	—	2	1	2	—
Abscess of Lung	—	—	—	—	—
Gangrene of Lung	—	—	—	—	—
Pleuro-Pneumonia	—	1	—	1	—
Emphysema	—	—	—	—	—
Pleurisy	—	15	—	15	1
Empyema	—	3	3	3	—
Asthma	—	1	—	1	—
DIGESTIVE SYSTEM—					
Stomatitis	—	2	—	2	—
Caries of Teeth	—	8	—	8	—
Glossitis	—	1	—	1	—
Sore Throat	—	—	—	—	—
Inflammation of Tonsils	—	7	—	7	—
Gastritis	—	1	—	1	—
Ulceration of Stomach	—	1	1	1	—
Hæmatemesis	—	—	—	—	—
Dilatation of Stomach	—	—	—	—	—
Stricture of Stomach	—	—	—	—	—
Dyspepsia	—	13	—	13	—
Enteritis	—	6	4	6	—
Appendicitis	—	4	2	4	—
Colitis	—	—	—	—	—
Ulceration of Intestines	—	—	—	—	—
Sprue	—	—	—	—	—
Hernia	2	47	8	49	—
Diarrhœa	1	40	3	41	1
Constipation	—	17	—	17	—
Colic	—	4	—	4	—
Carried forward ...	14	669	95	683	22

RETURN OF DISEASES AND DEATHS IN 1911 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1910.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1911.
		Admissions.	Deaths.		
Brought forward ...	14	669	95	683	22
DIGESTIVE SYSTEM—<i>continued.</i>					
Hæmorrhoids	—	5	—	5	1
Pancreatitis	—	—	—	—	—
Hepatitis—Acute	2	11	1	13	—
Abscess of Liver	—	3	1	3	—
Cirrhosis	3	17	5	20	1
Jaundice	—	—	—	—	—
Peritonitis	—	4	1	4	—
Ascites	—	1	—	1	—
Pharyngitis	—	7	—	7	—
Gall Stone	—	1	—	1	—
Intestinal Obstruction	—	1	—	1	—
LYMPHATIC SYSTEM—					
Splenitis	—	5	—	5	—
Inflammation of Lymphatic Gland	—	14	—	14	1
Suppuration of Lymphatic Gland ...	1	8	—	9	—
Lymphangitis	1	2	—	3	—
Elephantiasis	2	6	1	8	—
URINARY SYSTEM—					
Acute Nephritis	—	16	6	16	1
Bright's Disease	1	11	1	12	2
Pyelitis	—	1	1	1	—
Calculus	—	—	—	—	—
Renal Colic	—	—	—	—	—
Cystitis	—	4	—	4	—
Vesical Calculus	—	—	—	—	—
Suppression	—	1	—	1	—
Hæmaturia	—	—	—	—	—
Chyluria	—	—	—	—	—
Albuminuria	—	1	—	1	—
Pyonephrosis	—	1	1	1	—
MALE ORGANS OF GENERATION—					
Urethritis	—	1	—	1	—
Gleet	—	—	—	—	—
Stricture	1	34	4	35	1
Prostatitis	—	2	—	2	—
Soft Chancre	—	—	—	—	—
Condyloma	—	—	—	—	—
Inflammation of Scrotum	1	—	—	1	—
Phimosis	3	43	—	46	—
Hydrocele	—	16	—	16	—
Orchitis	—	3	—	3	—
Epididymitis	—	4	—	4	—
Abscess of Testicle	1	—	—	1	—
Urinary Fistula	—	1	—	1	—
Perineal Abscess	—	1	—	1	—
Ulcer of Penis	—	7	—	7	—
Perineal Fistula	—	1	—	1	—
Prostatic Abscess	—	3	—	3	—
Phagedena of Penis... ..	—	1	—	1	—
Carried forward ...	30	906	117	936	29

RETURN OF DISEASES AND DEATHS IN 1911 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1910.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1911.
		Admissions.	Deaths.		
Brought forward ...	30	906	117	936	29
FEMALE ORGANS OF GENERATION—					
Ovaritis	—	—	—	—	—
Ovarian Cyst	—	—	—	—	—
Endometritis	1	13	—	14	—
Displacement of Uterus	1	1	—	2	—
Vaginitis	1	1	—	2	—
Amenorrhœa	—	—	—	—	—
Dysmenorrhœa	—	1	—	1	—
Menorrhagia	—	—	—	—	—
Leucorrhœa	—	—	—	—	—
Abortion	—	11	—	11	—
Delayed Labour	1	95	1	96	1
Post-partem Hæmorrhage	—	—	—	—	—
Retained Placenta	—	—	—	—	—
Premature Birth	—	11	—	11	—
Puerperal Septicæmia	—	—	—	—	—
Mastitis	—	2	—	2	—
Abscess of Breast	—	3	—	3	1
Threatened Abortion	—	3	—	3	—
Metrorrhagia	—	1	—	1	1
Perimetritis	—	1	—	1	—
Puerperal Eclampsia	—	2	2	2	—
False Pains	—	7	—	7	—
Disorders of Pregnancy	—	4	—	4	—
Salpingitis	—	1	—	1	—
ORGANS OF LOCOMOTION—					
Osteitis	—	1	—	1	—
Arthritis	—	—	—	—	—
Spondylitis	—	—	—	—	—
Bursitis	—	1	—	1	1
Myositis Ossificans	1	1	—	2	—
Synovitis	—	20	—	20	—
Periostitis	—	10	—	10	—
Necrosis	1	6	—	7	—
CONNECTIVE TISSUE—					
Cellulitis	2	18	—	20	—
Abscess	1	54	2	55	2
Elephantiasis	—	—	—	—	—
DISEASES OF THE SKIN—					
Urticaria	—	—	—	—	—
Eczema	—	1	—	1	—
Boil	—	2	—	2	—
Carbuncle	—	4	—	4	—
Herpes	—	1	—	1	—
Psoriasis	—	—	—	—	—
Oriental Sore	—	—	—	—	—
Tinea	—	—	—	—	—
Scabies	—	—	—	—	—
Acne	—	—	—	—	—
Prickly Heat	—	—	—	—	—
Ulcer	11	118	1	129	4
Whitlow	—	6	—	6	—
Carried forward ...	50	1306	123	1356	39

RETURN OF DISEASES AND DEATHS IN 1911 AT THE COLONIAL HOSPITAL—*contd.*

Diseases.	Remaining in Hospital at end of 1910.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1911.
		Admissions.	Deaths.		
Brought forward ...	50	1306	123	1356	39
INJURIES—					
General	—	—	—	—	—
Local	—	—	—	—	—
Punctured Wound	—	5	—	5	—
Contusion	—	22	—	22	—
Contused Wound	1	34	1	35	—
Gunshot „	1	4	1	5	—
Incised „	—	14	—	14	—
Lacerated „	—	26	—	26	—
Burns and Scalds	—	8	3	8	—
Fracture	2	23	2	25	—
Sprain	—	6	—	6	1
Dislocation	—	2	—	2	—
SURGICAL OPERATIONS					
TUMOURS					
Cancer	—	6	1	6	2
Fibroid	—	12	2	12	—
Keloid	—	1	—	1	—
Ganglion	—	3	—	3	—
MALFORMATIONS					
POISONS					
PARASITES—					
Animal :—					
Protozoa	—	—	—	—	—
Trematoda (Flukes)	—	—	—	—	—
Cestoda :—					
Tænia Solium	—	—	—	—	—
„ Saginata	—	—	—	—	—
Nematoda :—					
Ascaris	—	1	—	1	—
Tricocephalus Dispar	—	—	—	—	—
Trichina	—	—	—	—	—
Dracunculus	—	—	—	—	—
Filariasis	—	1	—	1	—
Strongylus	—	—	—	—	—
Ankylostomiasis	—	3	—	3	—
Oxyuris	—	—	—	—	—
Insecta :—					
Myiasis	—	3	—	3	1
Grand Total ...	54	1,481	133	1,535	43

Table VI a.

RETURN SHOWING IN-PATIENTS IN THE VARIOUS DISPENSARIES OF THE COLONY AND PROTECTORATE, EXCEPT THE COLONIAL HOSPITAL, DURING THE YEAR, 1911.

Diseases.	Remaining in Hospital at end of 1910.	Year's Total.		Total Cases Treated.	Remaining in Hospital at end of 1911.	Remarks.
		Admis- sions.	Deaths.			
Beri-Beri	—	3	1	3	1	
Chicken Pox... ..	—	3	—	3	—	
Dysentery	1	14	4	15	—	
Gonorrhœa	1	6	1	7	2	
Leprosy—(a) Nodular ...	8	6	2	14	12	
(b) Anæsthetic ...	—	—	—	—	—	
Malaria—						
(a) Tertian	—	25	—	25	—	
(b) Quartan	—	4	—	4	—	
(c) Æstivo-Autumnal ...	—	3	—	3	—	
(d) Chronic Malaria ...	1	1	—	2	—	
(e) Blackwater	—	1	1	1	—	
Pneumonia	—	4	2	4	—	
Small Pox	—	1	—	1	—	
Syphilis—(a) Primary ...	—	—	—	—	—	
(b) Secondary ...	—	1	—	1	1	
(c) Inherited ...	28	18	6	46	17	
Tuberculosis	—	3	1	3	—	
Yaws	—	1	—	1	—	
Other Diseases	—	5	1	5	—	
General Diseases	21	67	18	88	27	
Rheumatism	1	11	—	12	—	
Debility	—	4	—	4	—	
Nervous System	26	46	18	72	30	
Diseases of the Eye	2	7	—	9	1	
„ „ Nose... ..	—	2	—	2	—	
„ „ Circulatory System	—	10	5	10	—	
„ „ Respiratory do.	1	42	4	43	1	
„ „ Digestive do.	6	55	13	61	4	
„ „ Lymphatic do.	2	13	1	15	—	
„ „ Urinary do.	1	12	3	13	1	
„ „ Generative do.	—	—	—	—	—	
„ „ Male organs...	1	35	1	36	3	
„ „ Female organs	1	6	1	7	—	
„ „ Organs of Locomotion	2	26	—	28	1	
„ „ Connective Tissue	1	29	4	30	3	
„ „ Skin	30	90	5	120	15	
Injuries—General	—	44	4	44	—	
„ Local	2	28	—	30	1	
Surgical Operations	1	15	—	16	—	
Tumours	—	7	—	7	—	
Parasites	—	5	—	5	—	
Poisons	—	1	—	1	—	
Intoxications	—	1	—	1	—	
Total	137	656	96	793	120	

Table No. VII.

RETURN OF DISEASES, COLONIAL HOSPITAL, FREETOWN.

OUT PATIENTS.

REGISTERED NUMBER OF NEW CASES.

TOTALS.					TOTALS.				
					Male.	Female			
							Total brought forward	987	328
INFECTIVE DISEASES—							GENERAL DISEASES—		
Beri-Beri	...	...	...	1	—	—	Anæmia	...	—
Cerebro-Spinal Fever	...	...	...	—	—	—	Anæmia (Pernicious)	...	—
Chicken Pox	..	...	...	6	—	—	Diabetes	...	—
Cholera	...	...	...	—	—	—	Exophthalmic Goitre	...	—
Dengue	...	...	...	—	—	—	Gout	...	—
Diphtheria	...	...	...	—	—	—	Leucocythæmia	...	—
Dysentery	...	...	...	25	13	—	Hodgkin's Disease	...	—
Endocarditis (Infective)	...	...	...	—	—	—	Myxœdema	...	—
Enteric	...	...	...	—	—	—	Purpura	...	—
Erysipelas	...	...	...	—	—	—	Rickets	...	144
Gonorrhœa	...	...	...	93	2	—	Scurvy	...	1
Influenza	...	...	...	57	7	—	Debility	...	958
Kala Azar	...	...	...	—	—	—	Obesity	...	834
Leprosy (a) Nodular	...	...	...	—	—	—	Rheumatism	...	...
(b) Anæsthetic	...	...	...	1	1	—			
Malaria (a) Tertian	...	...	...	—	—	—	LOCAL DISEASES—		
(b) Quartan	...	...	...	—	—	—	NERVOUS SYSTEM—		
(c) Æstivo-Autumnal	...	...	...	422	151	—	Sub sec. 1.	8	4
(d) Chronic Malaria	...	...	...	287	91	—	Neuritis	...	3
(e) Blackwater	...	...	...	—	—	—	Meningitis	...	—
Measles	...	...	...	—	—	—	Myelitis	...	—
Malta Fever	...	...	...	—	—	—	Hydrocephalus	...	—
Plague	...	...	...	—	—	—	Encephalitis	...	—
Pneumonia	...	...	...	15	11	—	Abscess of Brain	...	—
Rabies	...	...	...	—	—	—	Congestion of Brain	...	—
Relapsing Fever	...	...	...	—	—	—	Sub sec. 2.	—	—
Rheumatic Fever	...	...	...	—	—	—	Apoplexy	...	12
Septicæmia	...	...	...	3	—	—	Paralysis	...	6
Small Pox	...	...	...	—	—	—	Chorea	...	—
Syphilis (a) Primary	...	...	...	20	6	—	Epilepsy	...	65
(b) Secondary	...	...	...	25	28	—	Neuralgia	...	2
(c) Inherited	...	...	...	—	—	—	Hysteria	...	1
Tetanus	...	...	...	2	—	—	Concussion	...	11
Trypanosomiasis (Sleeping Sick-	...	...	...	—	—	—	Vertigo	...	56
ness)	...	...	...	—	—	—	Headache	...	1
Tuberculosis	...	...	...	22	13	—	Locomotor Ataxy	...	5
Whooping Cough	...	...	...	1	2	—	Neurasthenia	...	—
Yaws	...	...	...	2	3	—	Convulsions	...	4
Yellow Fever	...	...	...	—	—	—	Sub sec. 3.	—	—
INTOXICATIONS—							MENTAL DISEASES—		
Alcoholism	...	...	...	5	—	—	Idiocy	...	1
Morphinism	...	...	...	—	—	—	Mania	...	—
Others	...	...	...	—	—	—	Melancholia	...	—
							Dementia	...	1
							Delusional Insanity	...	—
Total carried forward					987	328	Total carried forward		
								2254	1380

TOTALS.

TOTALS.

	Male.	Female		Male.	Female
Total brought forward	2254	1380	Total brought forward	3836	2517
Eye—			DIGESTIVE SYSTEM (<i>continued</i>)—		
Conjunctivitis	113	53	Sprue	—	—
Keratitis	3	1	Hernia	70	—
Ulceration of Cornea	—	—	Diarrhœa	129	60
Iritis	3	3	Constipation	1039	566
Optic Neuritis	—	—	Colic	29	20
Cataract	7	5	Hæmorrhoids	9	6
Stye	3	—	Pancreatitis	—	—
Glaucoma	1	—	Hepatitis (Acute)	19	2
Myopia	3	3	Abcess	—	—
Foreign body in Eye	2	—	Cirrhosis	13	—
Cyst of Eyelid	1	—	Jaundice	—	—
EAR—			Peritonitis	1	—
Inflammation	29	25	Ascites	—	—
Other Diseases	—	—	Pharyngitis	99	28
Deafness	3	2	Prolapse of Rectum	3	1
Otorrhea	19	12	Gumboil	4	2
Nose—			Teething	6	5
Coryza	21	8	LYMPHATIC SYSTEM—		
Epistaxis	3	—	Perisplenitis	8	—
Polypus of Nose	2	2	Inflammation of Lymphatic Gland	50	13
Ozœna	1	1	Suppuration of Lymphatic Gland	4	2
CIRCULATORY SYSTEM—			Lymphangitis	6	1
Pericarditis	5	4	Elephantiasis	9	2
Endocarditis	—	—	Hypertrophy of Spleen	49	15
Valvular—Mitral	22	11	URINARY SYSTEM—		
Aortic	7	8	Acute Nephritis	5	6
Tricuspid	—	—	Bright's Disease	17	5
Pulmonary	—	—	Pyelitis	—	—
Arterial Sclerosis	—	—	Calculus	—	—
Aneurism	3	1	Renal Colic	—	—
Palpitation	2	4	Cystitis	14	1
Hypertrophy	1	—	Vesical Calculus	—	—
RESPIRATORY SYSTEM—			Suppression	—	—
Laryngitis	31	22	Hæmaturia	1	2
Bronchitis	654	422	Chyluria	1	—
Broncho-Pneumonia	—	1	Retention	2	1
Abscess of Lung	—	—	Urinary Fistula	4	—
Gangrene of Lung	—	—	GENERATIVE SYSTEM—		
Asthma	11	6	<i>Male Organs—</i>		
Emphysema	—	—	Urethritis	6	—
Pleurisy	31	13	Gleet	—	—
Empyema	1	—	Stricture	39	—
DIGESTIVE SYSTEM—			Prostatitis	2	—
Stomatitis	28	22	Soft Chancre	—	—
Caries of Teeth	214	133	Condyloma	—	—
Glossitis	2	—	Inflammation of Scrotum	—	—
Sore Throat	16	14	Hydrocele	22	—
Inflammation of Tonsils	52	22	Orchitis	12	—
Gastritis	6	1	Epididymitis	6	—
Ulceration of Stomach	—	—	Abscess of Testicle	—	—
Hæmatemesis	—	—	Phimosis	68	—
Dilatation of Stomach	—	—	Hæmatocele	2	—
Stricture of Stomach	—	—	Ulcer of Penis	32	—
Dyspepsia	279	338	Varicocele	3	—
Enteritis	2	—	<i>Female Organs—</i>		
Appendicitis	1	—	Ovaritis	—	6
Colitis	—	—	Ovarian Cyst	—	—
Ulceration of Intestines	—	—	Endometritis	—	58
			Displacement of Uterus	—	2
			Vaginitis	—	—
Total carried forward	3836	2517	Total carried forward	5619	3321

TOTALS.					TOTALS.				
	Male.	Female		Male.	Female				
Total brought forward	5619	3321	Total brought forward	7312	4008				
GENERATIVE SYSTEM (<i>continued</i>)—			INJURIES (<i>continued</i>)—						
Amenorrhœa	—	77	Lacerated Wound	16	5				
Dysmenorrhœa	—	24	Gunshot Wound	3	—				
Menorrhagia	—	25	Human Bite	14	11				
Leucorrhœa	—	2	Snake Bite	1	—				
Abortion	—	32	Dog Bite	4	2				
Delayed Labour	—	6	Sprain	52	23				
Post-partem Hæmorrhage	—	—	Fracture	19	6				
Retained Placenta	—	—	Dislocation	11	8				
Premature Birth	—	—	Burn and Scald	14	18				
Puerperal Septicæmia	—	—							
Mastitis	—	19							
Abscess of Breast	—	6							
Uterine Colic	—	2	SURGICAL OPERATIONS	—	—				
Metrorrhagia	—	2							
Menopause	—	3							
Congestion of Uterus	—	9							
			TUMOURS—						
ORGANS OF LOCOMOTION—			Ganglion	2	—				
Osteitis	—	—	Non-malignant Growth	22	9				
Arthritis	—	—	Fibronia	1	1				
Spondylitis	—	—	Keloid	1	—				
Bursitis	2	1	Cancer	2	4				
Periostitis	18	6	Cyst	3	4				
Necrosis	1	—	Goitre	1	—				
Synovitis	33	8							
			MALFORMATIONS—						
CONNECTIVE TISSUE—			Cleft Palate	3	2				
Cellulitis	9	5							
Abscess	82	30							
Elephantiasis	—	—	POISON	4	1				
SKIN—			PARASITES—						
Urticaria	—	—	Animal—						
Eczema	72	5	Protozoa	—	—				
Boil	25	16	Trematoda (Flukes)	—	—				
Carbuncle	—	1	Cestoda—						
Herpes	5	5	Tænia Solium	17	20				
Psoriasis	—	—	Tænia Saginata	—	—				
Oriental Sore	—	—	Nematoda—						
Tinea	28	7	Ascaris	186	202				
Scabies	43	5	Tricocephalus Dispar	—	—				
Acne	—	—	Trichina	—	—				
Prickley Heat	—	—	Dracunculus	—	—				
Craw Craw	5	—	Filariasis	2	—				
Ulcer	689	163	Strongylus	—	—				
Whitlow	28	16	Ankylostomiasis	2	—				
Alopecia Areata	1	—	Oxyuris	—	—				
Dhobi Itch	15	—	Insecta—						
			Myiasis	—	—				
INJURIES—									
GENERAL	—	—							
LOCAL—									
Incised Wound	200	135							
Contused Wound	417	65							
Punctured Wound	20	12							

Table VII a.

RETURN SHOWING OUT-PATIENTS IN THE VARIOUS DISPENSARIES OF THE
COLONY AND PROTECTORATE, EXCEPT THE COLONIAL HOSPITAL, DURING THE
YEAR 1911.

DISEASES.							Male.	Female.
INFECTIVE DISEASES.	Beri Beri	...	...	...	...	...	1	—
	Chicken Pox	...	...	...	...	...	14	6
	Dysentery	...	...	...	...	...	185	69
	Gonorrhœa	...	...	...	...	...	609	15
	Leprosy (a) Nodular	...	...	...	...	...	20	10
	(b) Anæsthetic	...	...	...	...	...	—	2
	Malaria (a) Tertian...	...	...	...	...	...	498	259
	(b) Quartan	...	...	...	...	...	65	25
	(c) Æstivo Autumnal	...	...	...	...	...	100	54
	(d) Chronic Malaria	...	...	...	...	...	122	102
	(e) Blackwater	...	...	...	...	...	—	—
	Measles	...	...	...	...	...	5	9
	Pneumonia	...	...	...	...	...	15	8
	Influenza	...	...	...	...	...	11	1
	Trypanosomiasis	...	...	...	...	...	—	—
	Small Pox	...	...	...	...	...	3	—
	Syphilis (a) Primary	...	...	...	...	...	48	75
	(b) Secondary	...	...	...	...	...	18	35
	(c) Inherited	...	...	...	...	...	113	130
Tetanus	...	...	...	...	...	1	3	
Tuberculosis	...	...	...	...	...	21	7	
Yaws...	...	...	...	...	...	168	87	
Yellow Fever	...	...	...	...	...	—	—
INTOXICATIONS	...	...	...	...	...	5	—	
GENERAL DISEASES...	...	...	...	...	...	1,287	1,103	
LOCAL DISEASES.	Diseases of the Nervous System	...	...	...	...	...	352	243
	„ „ Eye	...	...	...	...	...	194	84
	„ „ Ear	...	...	...	...	...	105	118
	„ „ Nose	...	...	...	...	...	78	75
	„ „ Circulatory System	...	...	...	...	...	105	147
	„ „ Respiratory System	...	...	...	...	...	1,330	962
	„ „ Digestive System	...	...	...	...	...	3,654	3,024
	„ „ Lymphatic System...	...	...	...	...	...	187	102
	„ „ Urinary System	...	...	...	...	...	64	44
	„ „ Generative System—Male Organs	...	...	...	...	...	286	—
	„ „ „ „ Female „	...	...	...	...	...	—	480
	„ „ Organs of Locomotion	...	...	...	...	...	255	126
	„ „ Connective Tissues	...	...	...	...	...	117	70
	„ „ Skin	...	...	...	...	...	1,444	816
	Injuries—General	...	...	...	...	...	599	102
	„ Local	...	...	...	...	...	1,084	455
	Surgical Operations	...	...	...	...	...	3	—
Tumours	...	...	...	...	...	9	27	
Malformations	...	...	...	...	...	4	3	
Poisons	...	...	...	...	...	—	1	
Parasites	...	...	...	...	...	665	626	
Insecta	...	...	...	...	...	—	—
Minor Diseases	...	...	...	...	...	688	713	
Unclassified...	...	...	...	...	...	203	108	
TOTAL							14,735	10,326
Subsequent Attendances							13,969	9,787
GRAND TOTAL							28,704	20,113

Table II.
TABLE SHOWING THE MORTALITY OVER 12 MONTHS.

		1 to 5 Years.		5 to 10 Years.		10 to 15 Years.		15 to 20 Years.		20 to 25 Years.		25 to 35 Years.		35 to 45 Years.		45 to 55 Years.		55 to 65 Years.		65 to 75 Years.		Over 75 Years.		Total.
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
January	...	2	1	—	—	2	1	5	—	—	—	10	4	8	2	4	2	1	3	1	1	—	3	50
February	...	2	4	—	2	—	—	2	—	2	—	3	4	5	1	3	4	3	2	3	1	2	4	47
March	...	—	1	—	2	—	—	3	—	1	—	9	3	7	2	4	2	2	1	2	1	—	—	40
April	...	1	2	—	2	2	—	—	1	2	—	6	3	4	3	4	3	2	5	2	2	2	2	48
May...	...	7	5	—	—	—	—	3	—	—	—	9	3	1	2	2	1	1	2	1	—	1	1	39
June...	...	4	2	2	1	—	1	—	2	2	2	6	2	8	5	2	—	—	6	2	2	2	1	52
July...	...	6	1	1	—	—	—	2	—	1	—	13	3	1	2	4	4	5	1	2	4	3	5	58
August	...	2	3	—	1	—	—	—	—	1	3	9	3	4	1	4	2	2	1	4	2	1	8	51
September	...	3	2	—	—	1	—	—	1	2	—	11	—	2	3	6	4	7	7	—	1	3	5	58
October	...	1	2	2	1	1	1	2	2	3	3	3	2	2	1	5	1	2	3	4	—	—	3	44
November	...	2	1	—	—	—	—	—	—	1	—	10	3	4	4	4	1	4	4	3	4	1	3	49
December	...	1	2	—	2	1	1	1	1	3	2	9	4	4	2	3	—	4	5	3	3	2	2	55
Total	...	31	26	5	11	7	4	18	7	18	10	98	34	50	28	45	24	33	40	27	21	17	37	591

Table III.

TABLE SHOWING THE MORTALITY DUE TO DIFFERENT DISEASES UP TO THE AGE OF FIVE YEARS.

DISEASES.	24 Hours and under.		1 Day to 1 Week.		1 to 2 Weeks.		2 to 3 Weeks.		3 Weeks to 1 Month.		1 to 2 Months.		2 to 3 Months.		3 to 4 Months.		4 to 5 Months.		5 to 6 Months.		6 to 7 Months.		7 to 8 Months.		8 to 9 Months.		9 to 10 Months.		10 to 11 Months.		11 to 12 Months.		1 to 5 Years.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Fever ...	—	—	—	1	—	—	—	—	1	—	2	—	—	2	2	—	1	—	2	1	—	—	—	—	1	—	—	—	—	—	—	4	2	19	
Debility ...	4	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	
Starvation ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Exhaustion ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	
Nervous System ...	8	9	8	6	1	2	2	2	—	—	3	—	6	1	1	1	2	1	2	2	4	1	—	—	—	3	2	1	—	2	—	11	10	91	
Alimentary System ...	—	—	1	2	—	—	—	—	—	—	2	—	2	1	—	—	1	—	3	3	—	—	—	—	—	—	—	—	—	—	—	1	7	4	30
Respiratory „ ...	1	—	—	—	—	1	1	—	—	—	—	—	1	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	1	2	2	11	2
Premature Birth ..	9	10	6	2	1	—	2	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Dropsy ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unclassified ...	1	—	—	2	—	1	—	—	—	—	1	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	7	22	
TOTAL ...	23	20	17	13	2	4	5	2	1	—	9	1	9	3	3	4	4	2	6	7	9	1	—	—	1	3	2	1	—	2	1	1	31	26	213

Table IV.

TABLE SHOWING THE MORTALITY DUE TO DIFFERENT DISEASES OVER FIVE YEARS.

DISEASES.	5 to 10 Years.		10 to 15 Years.		15 to 20 Years.		20 to 25 Years.		25 to 35 Years.		35 to 45 Years.		45 to 55 Years.		55 to 65 Years.		65 to 75 Years.		Over 75 Years.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
General Diseases—																					
Fever, Intermittent ...	3	1	—	—	3	1	2	2	10	6	1	3	5	3	2	2	1	—	1	—	48
” Remittent ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
” Blackwater ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Syphilis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Debility ...	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rheumatism ...	1	2	1	—	—	—	—	—	4	2	3	5	3	1	3	6	10	14	30	—	77
Tubercle ...	—	—	—	—	—	—	—	—	4	1	—	3	—	1	—	—	—	—	—	—	25
Cancer ...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	1	—	—	—	16
Trypanosomiasis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Malignant, New Growth ...	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	1	—	—	—	2
Local Diseases—																					2
Nervous System ...	—	2	3	1	1	—	—	1	5	2	6	3	5	—	6	4	3	—	—	—	47
Circulatory ” ...	—	—	—	—	—	—	—	—	7	1	10	1	4	1	4	9	3	1	—	—	41
Respiratory ” ...	—	2	—	—	2	6	3	4	21	5	11	6	7	3	4	3	2	1	—	—	81
Digestive ” ...	—	—	2	1	5	—	8	1	28	9	11	8	8	3	12	8	7	2	—	—	121
Lymphatic ” ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Urinary ” ...	—	—	—	—	1	1	—	1	4	—	3	2	3	—	1	—	—	—	—	—	18
Generative ” ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Male ...	—	—	—	—	—	—	—	1	—	—	—	—	1	—	2	—	1	—	—	—	5
Female ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Affections connected with Pregnancy ...	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
” ” Parturition ...	—	—	—	—	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	1
Connective Tissue... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Skin ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Poison ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Injuries ...	—	1	—	—	1	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Unclassified ...	—	—	—	—	—	—	3	1	3	5	4	4	3	4	—	1	—	—	2	—	31
Total ...	4	9	6	3	13	11	19	17	89	32	53	35	42	21	35	37	32	25	18	33	534

Table V.

TABLE SHOWING THE MORTALITY DUE TO DIFFERENT DISEASES AT ALL AGES

DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
General Diseases—																										
Small Pox ...	3	2	3	4	3	3	1	2	1	—	3	2	7	—	2	12	1	3	3	—	5	1	1	4	—	66
Fever, Intermittent ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
” Remittent ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
” Blackwater ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Syphilis ...	3	5	6	4	—	6	5	3	—	2	—	3	6	—	2	—	1	—	1	—	—	—	—	—	2	
Debility ...	—	—	2	1	1	—	2	3	1	2	—	—	3	—	1	1	5	6	3	2	1	1	2	1	81	
Rheumatism ...	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	2	—	—	—	—	—	24	
Tubercle ...	—	2	—	—	—	3	1	—	2	—	—	1	1	1	—	—	—	2	—	1	1	1	1	1	18	
Cancer ...	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	4	
Trypanosomiasis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	2	
Malignant New Growth ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	2	
Local Diseases—																										
Nervous System ...	11	2	2	3	10	1	12	4	5	5	6	9	6	5	5	6	4	10	3	—	3	1	6	4	123	
Circulatory ” ...	3	—	1	2	5	—	1	1	—	1	4	1	2	1	2	2	2	—	2	2	—	6	7	2	46	
Respiratory ” ...	7	7	6	4	8	1	2	2	7	3	7	7	4	2	2	2	2	4	7	9	8	3	10	2	116	
Digestive ” ...	9	5	5	3	4	1	2	4	9	3	3	3	16	8	4	4	12	2	5	2	10	5	6	6	139	
Lymphatic ” ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Urinary ” ...	1	—	2	1	—	—	2	2	1	1	1	—	2	1	—	—	1	—	—	1	2	1	1	1	21	
Generative ” ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
Male ...	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1	—	—	1	—	—	—	—	—	
Female ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	
Affections connected with Pregnancy ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
” ” Parturition ...	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	
Connective Tissue ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	2	
Skin ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Poison ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Injuries ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Premature Birth ...	2	—	—	1	3	1	1	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	10	
Unclassified ...	1	1	1	—	—	—	4	4	3	—	2	2	1	4	1	1	3	1	5	—	1	2	2	5	32	
TOTAL ...	41	25	29	24	36	16	34	26	31	19	33	30	48	30	37	33	39	31	33	26	36	21	38	31	747	

Table VI.

TABLE SHOWING THE DISTRIBUTION OF DEATHS ACCORDING TO MONTHS AND SEXES, 1911.

MONTH.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Male	... ..	41	29	36	34	31	33	48	37	39	33	36	38	435
Female	... ..	25	24	16	26	19	30	30	33	31	26	21	31	312
TOTAL		66	53	52	60	50	63	78	70	70	59	57	69	747

ANNUAL SANITARY REPORT FOR THE YEAR 1911 OF THE COLONY OF SIERRA LEONE BY THE SENIOR SANITARY OFFICER.

1. The Office of Senior Sanitary Officer of Sierra Leone (and the Gambia) was created with my appointment to that post on the 18th of May, 1910, but circumstances precluded my taking up the special duties till late in that year, when sufficient time remained before the end of the year only to enable me to pay one visit to Sherbro', and one to Bathurst (Gambia). The year 1911 was, therefore, the first complete year during which I have been Senior Sanitary Officer, and this is the first Annual Report (with the exception of a brief record for 1910) that it has been the duty of the Senior Sanitary Officer here to present.

2. Though the position of Public Health Administration in Sierra Leone is fairly well and widely known, I think it advisable to briefly refer to its present position, under the following heads:—

1. Freetown ; 2. Sherbro' (Bonthé and York Island) ; 3. The Colony ; and 4. The Protectorate.

(1) The Corporation of Freetown consists of 12 elected representatives of ratepayers, and 3 members nominated by the Government. From these 15 members are formed, *inter alia*, a Sanitary Committee, Buildings, Works, and Waterworks Committees. The principal Medical Officer is Medical Officer of Health, and Chairman of the Sanitary Committee. The "City Council of Freetown" performs the duties of the Corporation, and is the Sanitary Authority for the City, the Water Authority, and the Authority regulating buildings, new streets, etc., etc.

(2) The Sherbro' Municipal Board is the Sanitary Authority for the towns of Bonthé and York Island, and consists of 8 members appointed by the Governor. The District Commissioner is Chairman of the Board, and the Medical Officer stationed for the time being at Bonthé is Medical Officer of Health with a seat on the Board, and as Medical Officer of Health receives no special salary. The power and authority of the Board range from the provision of public washhouses to the advancement of education.

(3) The principal Medical Officer is the Sanitary Authority for the Colony outside Municipal areas.

(4) Sanitation in the Protectorate has been promoted and regulated by the "Standing Instructions" to District Commissioners (No. 5 of 1909). From what I have seen I believe that much excellent pioneer work has been done under this régime. The need for advance in certain directions is generally admitted, and most markedly so in such districts as have been, or are being invaded by "strangers." Thanks chiefly to Dr. J. Crawford Maxwell, C.M.G., District Commissioner of the Railway District, the consideration of this matter is well advanced.

The following extracts from the "Standing Instruction No. 5 of 1909" which superseded circulars of 1904 and 1905, will serve to show the spirit, and indicate the scope of the scheme.

" *Introductory*.—The wealth of a district is dependent upon the health of the population, and such health is largely dependent upon the sanitation of the towns in the district. One of the most important duties therefore devolving upon the Political and Medical Officers in the Colony and Protectorate is to endeavour to bring about an advance in sanitation."

" 3. *Native law in favour of good sanitation*.—It will be found that where a town is governed by a good Chief, the chief principles of sanitation are observed. Moreover, close questioning of the older men will show that these principles are strictly enjoined by native law. It is important, therefore, to remember that an unhealthy town is one wherein native laws and customs are departed from, the Chief should be supported to the utmost by the Political and Medical Officers in enforcing the native laws with respect to sanitation."

" 5. *Prizes*. (a) *Swords*.—Prizes for sanitation, not exceeding two in number for any one district, will be given yearly. They will take the form of ornamental swords, . . . and will, save in the exceptional case hereafter mentioned be returned to the Government on the death of the holder without any compensation to the holder's family. It will also be given up should the holder allow his town to fall back into an insanitary condition. . . . The sword will be accompanied by an illuminated vellum certificate, which will remain the absolute property of the Chief and his family. No Chief will be eligible for more than one sword, but for every fresh success he will be awarded an additional vellum certificate. On any Chief obtaining five such certificates, his sword will become the absolute property of himself and his family. . . ."

" (b) *Money Prizes*. A money prize may be awarded to a Chief, who, having won a sword for his own town, has shown exceptional energy afterwards in bringing about the improvement of other towns under him.

(c) The fact that these prizes are given, and the reasons for which they are given, should be made known as widely as possible by District Officers. . . ."

3. *Freetown*.—It is not intended in this Report to deal generally with the subjects of the Public Health and Sanitation in Freetown for which the Corporation is in the main responsible, but for various reasons the following matters have been selected for notice.

4. "*Splenic Index*."—Dr. R. W. Orpen, M.O., reported on an investigation of the "Splenic Index" of children in the Freetown Schools, the children being selected of ages from 3 to 12 years, during the month of May.

His classification of spleens was, 1 means a spleen that cannot be felt; 2, one that is one to two fingers below costal margin; 3, two to three below costal margin; and 4, "ague cake."

Table A.

Total number of schools visited	...	13
Total number of Girls examined	...	529
Total number of Boys examined	...	620
Total Boys and Girls		<u>1,149</u>

Table B.
Spleens.

Girls.				Boys.			
1	2	3	4	1	2	3	4
431	78	16	4	532	68	37	3
Total spleens found in Girls, 98.				Girls' splenic index 18·6.			
Total spleens found in Boys, 88.				Boys' splenic index 14·1.			

Table C.

Total of children examined	...	...	1,149
Total number of enlarged spleens	...	...	186
Splenic index	...	...	16·1%

5. It will be convenient to give here the results of Dr. Orpen's examination of children at the *Villages of the Peninsula* with regard to the splenic index :

Village.	Number of children Examd.	Enlarged spleens.
Waterloo ...	52	48
Kent ...	55	7
Bananas ...	52	4
Tombo ...	43	9
	<hr/>	<hr/>
Totals ...	302	68
	<hr/>	<hr/>
Splenic index ...	...	22·5%

6. *Free distribution of Quinine.*—Arrangements have been made recently with the Committee of Management of the Princess Christian Mission Hospital, which is in the eastern part of the City, by which the Government supplies Quinine free to the Dispensary for free distribution to the public, on the same lines as it is issued from the Colonial Hospital.

7. It is of interest to note that the subject of the prophylactic use of Quinine received attention and support many years ago in Sierra Leone, and the following extract is from “Climate and Meteorology of Western Africa” by J. Africanus B. Horton, M.D., a native of Freetown, written in 1866 and published in the following year :—

“I should strongly recommend that persons who reside in malarious districts, or who in any way are exposed to the influence of malaria, should now and then take the sulphate of quinine, as it serves as a preventative; or should the person be attacked he will have a milder and more manageable disease than another who has not been so protected. . . . The best mode of giving quinine for such a purpose is in the form of quinine wine; four grains to every ounce of sherry, of which an ounce should be taken every morning before going out, and repeated if requisite in the afternoon. I shall here give one illustration out of many which might be brought forward to substantiate this position. In 1852 an expedition was undertaken by the Admiralty for two purposes. . . . Accordingly the iron steam schooner “Pleiad” under the command of Dr. Baikie ascended the Niger. The Europeans on board were armed with quinine as a prophylactic which they took whenever they had occasion to go on exploring expeditions, and after three months’ voyage in the interior of Africa, along the swampy banks of a large river, all returned safe and in good health. Of the effects of quinine Dr. Baikie wrote, ‘Of the

measures employed as hygienic, most were of a general nature, the only more specific one being the free use of quinine. The amount of sickness was very little. Mr. Guthrie besides undergoing daily an immense amount of fatigue, slept regularly on deck, and nevertheless escaped entirely. Mr. May and I were ashore whenever opportunity occurred, and as often by night as by day. We had frequently to land in swamps, and other unhealthy spots, yet Mr. May had only one very short and not severe febrile attack, while in the river I had CONSTANT health. I mention these circumstances he goes on to state to shew that under PROPER PRECAUTIONS Europeans may not only live quietly, but even commit with impunity what some years ago would have been considered a terrible indiscretion.’”

8. *Rat Destruction*.—During the year there were 1,918 rats and mice brought to the Colonial Hospital by the public, and paid for by the Government at the rate of one penny each. In this connection it may be mentioned that 527 (Police) dog licences were taken out during the year in the City.

9. *Dumping broken stone*.—The Government scheme (suggested by Professor Simpson in 1908) for dumping broken stone at convenient places in the western part of the City to enable the public to obtain material free of charge for filling pools and depressions in yards and compounds, has been continued as in former years. The public continues to shew a very marked appreciation of the facility afforded, and it was with difficulty the supplies could be provided sufficiently rapidly to meet the demand.

10. *Excavations, Stone Quarries, etc.*—In order to comply with the intention obviously suggested in the “Summary of Routine Sanitary Work done during the year” (item Excavations) it is necessary that the making of excavations (quarries) should be subjected to some control. A scheme to provide for this would appear to be adequately outlined as follows:—

(a) Where there are Government Quarries, stone and suchlike materials to be supplied to the public at cost price.

(b) Public Quarries to be located at suitable sites acquired by the Government. The public to be allowed to quarry free, or after small payment, and the work to be controlled by the Government.

(c) Private Quarries to be allowed to be opened free under licence, with specific conditions attached.

(d) The areas to which prohibition against unauthorised quarrying will apply to be defined.

(e) Quarrying to include the removal by excavation of rock, stone, earth, soil, clay, gravel or sand, for purpose of building, whether the material be intended to be so used within the defined prohibited area or not.

11. *Brookfields Drainage*.—The western area of the City between Congo and Alligator Rivers is a flat rock-plain lying at the foot of a hill-range, and is commonly called “Brookfields.” (It is sometimes confused with “Grassfields,” which is an area between Alligator River and Sanders Brook.) This area is crossed by the Mountain Railway line, the north portion is occupied by the Ascension Town Cemetery, the recreation ground, a Roman Catholic Church and school, etc., while on the south-east portion there are a few streets, compounds and huts, and the golf course and military shooting range covers most of the remainder. During the rains and for some months

afterwards almost the whole area is covered by high grass growing on a thin partial layer of soil on rock which is bare in very many places, and water lies over practically the whole of the flat ground. So far as habitations are concerned it is practically waste land, and extension of the City in this direction is barred by its swampy condition for such a large part of the year. Professor Simpson made recommendations with regard to the drainage of it, and a commencement was made towards the end of the year in digging a trench drain east and west across it at the base of the hills. It will be probably possible towards the end of the year 1912 to form an estimate of the value of the work done up to the commencement of the rains in relieving the flat area below of flooding by surface water and some subsoil water from the hills. It is hoped that this drain may so divert the flow which has hitherto flooded the land below it that it may be possible to deal with the water which falls directly on the area by surface drains, with the assistance of the natural subsoil drainage. It cannot be expected that the work which it will be possible to do before the onset of the rains in 1912 will completely serve this end, but it may be expected that some improvement will be noticed.

12. *Fish as Mosquito Larvæ Eaters*.—This matter has received some attention in Sierra Leone. Seven male and two female “Millions” fish were landed at Freetown from a consignment on its way to Lagos. They were kept under observation in a large glass leach tank. Though the females were observed to present temporary “embonpoint” no young were discovered, till one day it was noticed that the nine adults were congregated at one side all pointing towards a shoal of minute young on the opposite side. A return visit an hour or so later made it apparent that the number of young was much reduced, and watching shewed that they were being devoured by the adults, who would soon have eaten the lot. The remaining young were separated, and as the adult females shewed signs of approaching accouchment they were separated from the males, but again some young disappeared through the cannibalistic tendencies of the mothers.

Under these conditions it was with difficulty that about 60 young were rescued, but I was informed that subsequently during my absence some disease apparently attacked adults and young, and after changing colour they all died. Of course our effort was greatly handicapped by having only two adult females to start with.

Some native fresh-water fish from two to three inches long, with dark purple blue backs and pink red bellies were obtained from a spring in Freetown in which larvæ are never found. They devoured Mosquito larvæ in captivity and bred by spawning. The young were separated and placed in a bath which, however, unfortunately had some eel-like fish with flat heads and four or six “feelers” on their heads, and by the next day all the young had disappeared, no doubt eaten by the fish. These fish, judging by the specimens I have seen, are from three to four inches long and almost black in colour; they wriggle rather than swim, and frequent more or less foul pools. They emit a bubble of gas when they wriggle up to the surface, after which they immediately dive with a wriggling movement to the bottom again and hide beneath stones, weeds or mud.

Preserved specimens of these and other fish were sent to England for identification, but apparently miscarried.

The peculiar creature called “mud-skipper” here, may I think, be a useful assistant. They may be observed disappearing into crab holes, etc., and from the facilities they enjoy in locomotion on land they are able to “skip” from pool to pool, and from hole to hole. They exist in salt and brackish water, and I am not sure they will not thrive in fresh water, but I

doubt if they can get on for long without mud. Within a limited sphere it may be found they can perform useful service at swamp margins. I understand their geographical distribution is remarkably limited.

Dr. Orpen at my request made some observations at Bonthe on this subject, and he found that mosquito larvæ disappeared from water in which a "mud-skipper" was kept in captivity, but he did not observe the actual feeding.

I am inclined to think that the introduction of "millions" fish through the schools as objects for nature study might be fruitful of good result, especially if their multiplication were sufficiently successful to allow specimens to be given to the children to keep at home.

Small fish abound in every permanent stream I know of in Sierra Leone, but where the flow is small and much washing with soap is done, they are usually absent there and lower down. Some of these certainly eat larvæ in captivity and probably all do in nature. There are some bright green fish, the adult of which are about four to five inches long, with several black spots on their sides, in the ornamental fountain pond in the Victoria Park in Freetown, and here I have never seen larvæ.

13. *Stegomyia* Surveys, Freetown.—As the important work of making test surveys to ascertain the prevalence and conditions of domestic mosquito breeding in Freetown, and directing and organizing the routine connected with it, was carried out by the Junior Sanitary Officer, I include some details concerning this and kindred work done during the year.

In calculating the *Stegomyia* Index the compound is taken as the unit, and all places above one in each compound which were breeding places are ignored for Index purposes.

The Index as shewn by the test examination in March was 20 per cent., that in April was 14·8 per cent., in July was 16·4 per cent., and in September (250 compounds) was 6·8 per cent.

Analysis of the September record shews that of articles actually holding water which were examined there were :—

Barrels	...	...	108
Native pots...	...	...	145
Iron drums	...	...	141
Buckets	...	...	488
Tanks	...	...	4
Various	...	...	766 (coolers, tins, calabashes, etc.)
Total	...	...	<u>1,652</u>

In addition there were 54 wells.

Articles in which larvæ were found were :—

Barrels	...	...	3
Native pots...	...	...	7
Tins	...	...	4
Jug	...	...	1
Bottle	...	...	1
Paint pot	...	...	1
Total	...	...	<u>17</u>

14. *Larvæ cases the result of Routine Inspections (Freetown).*—Number of cases found and number convicted month by month during the year (F means found ; C means convicted) :—

January, 127 F and 79 C ; February, 125 F and 126 C ; March, 81 F and 86 C ; April, 112 F and 32 C ; May, 118 F and 98 C ; June, 247 F and 111 C ; July, 262 F and 157 C ; August, 69 F and 124 C ; September, 44 F and 101 C ; October, 40 F and 78 C ; November, 40 F and 26 C ; December, 85 F and 66 C.

Total number of cases found was 1,350, and cases convicted 1,084. The total net fines after deducting 2s. 1d. costs each, amounted to £111 2s. 5d., or just a fraction over 2s. each.

The number of cases awaiting trial on the 31st December, 1911, was 20.

The discrepancy between number of cases found and number convicted, where the latter is more than the former, is due to cases remaining over from one month to the next.

Dr. Alexander, J.S.O., was on tour in August, and on leave from September.

15. *Bonthe and York Island (Sherbro).*—Drs. Orpen, Burrows and Butler as Medical Officers stationed from time to time at Bonthe have been Medical Officers of Health for Bonthe and York Island during the year.

They have all done much good work under most difficult conditions, and have each furnished excellent reports. The Senior Sanitary Officer visited Bonthe and made a report.

An Order was passed during the year giving the Board power to prohibit building on unsuitable sites.

16. The effort which was made to temporarily provide a public water supply for the dry season by means of tube wells and pumps can scarcely be said to have been even a partial success. Most of the pumps were rendered useless through wilful damage and theft of working parts. A new iron cylinder well, with a Patent "Elevator" attached, promises to be more satisfactory.

The large (16,000 gallons) Public concrete Tanks are soon emptied after the rains cease, and there are no means of filling them from a safe well source.

17. The subject of swamp filling is engaging attention.

18. Considering the conditions of soil, level, &c., at Bonthe, the use of surface drains appears to me highly problematic, and I believe a much more promising method would be sub-surface drainage combined with filling. An experimental sub-surface drain of short length was laid by Dr. Burrows. Bottles with their bottoms knocked neatly out were buried in lines in a trench. The neck of one bottle was placed in the hole in the bottom of the one below, and all were covered. The experiment has been reported by others as remarkably successful.

19. A site has recently been obtained for a new Cemetery which it is hoped will be an improvement on the present one.

I am inclined to think that the Cemetery records might be better kept.

20. The only solution of the difficulty of providing a reasonably safe public water supply for Bonthe appears to be the sinking of concrete lined wells with strong pumps or "Elevators" attached. A large well (or several) dugged outside the town with windmill or aero-motor pump attached, tank and piping to the large concrete tanks to replenish the supply in them during the dry season appears to be a suggestion well worth serious consideration. It must be admitted that the scheme would, in the absence of anemometer records, be of the nature of an experiment. Needless to point out, pumps for such purpose need not work constantly. The experiment need not be a costly one, and the matter is important and urgent.

21. *The Peninsular Villages.*—Sanitary Inspection visits have been paid during the year to the Villages of the Peninsula by Drs. Orpen and Burrows, and Waterloo was also visited by the Sanitary Officers.

The Sergeants of Police of Waterloo and Wilberforce were appointed to act as Sanitary Inspectors some years ago by arrangement with the Commissioner of Police, with good results, and during the year the arrangement has been extended to include all the Villages.

Where the keeping of pigs has not been prohibited they prove to be a constant source of nuisance. It will probably be necessary to further restrict the areas in which they may be kept.

22. *Railway Reservation, Clinetown.*—The reservation has been kept in excellent Sanitary condition during the year, and its area has been slightly enlarged, but it is still far from sufficient. A scheme of surface drainage has been started and good progress was made during the year.

The only way to prevent the accumulation of arrears in drainage such as took place at the Reservation, and is now being wiped out by a fixed scheme, is to provide that drainage shall be considered with each building and construction plan, and money included for it in each estimate. It should be as necessary a consideration in each case as roofing or ballasting.

A Sanitary trenching ground is included within the Reservation, and is well looked after. An Incinerator deals with the combustible refuse, and the remainder is buried.

23. *Railway Line.*—It is unfortunate that the Railway Department should have to deal with such a large number of borrow-pits left by "construction" at and near Railway Stations.

Some work has been done during the year in filling up, or otherwise treating them, but it will require steady prolonged persistence, with no doubt a considerable expenditure of money, before all the borrow-pits which should be treated have been successfully dealt with. Much remains to be done.

24. *Rowalla Extension Line (Construction).*—I understand it is not now intended that the new branch line shall go to Rowalla, but will meet the River Rokell lower down.

Recommendations were made with regard to the digging of borrow-pits at or near Station sites, in the hope that no such legacy may be left for the "open-lines" as was received when the main line was handed over.

25. *Boia Junction Railway Station.*—With the advance of the branch line this Station will no doubt assume increasing importance. A well laid out Reservation has been built by the Railway Department for the accommodation of the native staff.

26. *Protectorate "Rest Houses."*—The subject of "Rest Houses" in the Protectorate appears to be one which requires particular attention from the Sanitary point of view. It appears that in the Railway District at least the large majority of the "Rest Houses" are not in any sense the property of the Government, nor have Government officials any legal right to the use of them, or customary right to their exclusive use. They are in the very large majority of instances merely Chiefs' or other prominent men's guest houses.

It is imperative that Government-owned "Rest Houses," reserved strictly for European officials should be provided in liberal numbers in the Protectorate on selected sites, and kept in good repair.

So far as the present position is known to me, it is such that I hesitate to enlarge upon or discuss it in a general Report of this kind.

27. *Roruks Railway Compound and Reservation.*—Roruks Station was for some time the terminus of the branch line from Boia Junction. Though the physical conditions were not particularly favourable, but rather the reverse, the planning of the Reservation for Traders, and the Station Compound and the way in which the latter is kept, reflect great credit on the Railway Department. If the "open lines" are left with favourable station sites on the extension of this line, I have no doubt the most will be made of the opportunities.

28. *Protectorate.*—It is not intended to reproduce here all the Sanitary Reports of Medical Officers in the Protectorate, or the Reports made by the Sanitary Officers as a result of visits of inspection.

The opportunities Medical Officers have for "patrolling" in the interests of Sanitation necessarily depend on the exigencies of their Medical duties at their Headquarters, and these vary between different stations, and at individual stations from time to time. It appears, however, that Medical Officers generally have not been backward in the duty of "patrolling" on Sanitation duty as opportunities offered. As has been indicated above, such opportunities present themselves more frequently at some stations than at others.

It is the duty of Medical Officers to send a Report at the close of each "patrol." Quarterly Reports as well as an Annual Report are also expected from them. As a rule, however, it is from the "patrol" Reports that most good results. Impressions are recorded while they are still fresh, and the information they contain are the result of recent direct personal observation, while Annual Reports have frequently to be drawn up by those whose acquaintance with the District is of recent origin and from materials handed on by predecessors.

The observations which follow will be of a general character rather than a recapitulation of specific details.

29. Elsewhere in this Report brief notice is taken of the influence of native customs in their bearing on or relation to Sanitation. The fact that the Protectorate is peopled by tribes which differ in customs and habits, beliefs and prejudices, and the difficulty that is experienced by all who try to understand the reasons and motives of the customs, &c., of this heterogeneous community, prohibits the application immediately of a body of Sanitary rules and regulations which can be universally put in force.

The Sanitation Scheme for the Protectorate, which has been controlled by the District Commissioners, assisted by the Medical Officers, has been promoted by moral suasion, and the use of that force has produced beneficial

results. In a few instances, graveyards have been set apart where none existed before in the European sense of the name, by Chiefs acting voluntarily. This is no small achievement. The beginning has been made in a District where it is foreign to traditional custom. All that concerns the disposal of the dead is associated with religious or superstitious ceremonial, and sentiment, even or perhaps most amongst the least civilized. In a community accustomed to bury in Cemeteries it will not be impolitic to introduce regulation governing sites, depth of grave, etc., but when one is dealing with a people whose customs do not include Cemeteries, which may be in partial conflict with its traditions, it is essential that the innovation should be gradually introduced, and, as far as possible, the result of suggestion influencing those natives who lead native opinion in general or in this particular matter. It is not my intention to go into details regarding the matter of the disposal of the dead, the "Porro Bush," etc. ; my object now is merely to indicate that the treatment of all such matters should be regarded as one of extreme delicacy and demanding the utmost patience, consideration, and forethought before attempt is made to enforce changes by other means than moral suasion. These views, which I believe I have absorbed from those who have had longer experience of the country than I have had, and more intimate acquaintance with the Protectorate tribes than I have been able to acquire, no one on the spot will cavil at, though to others the policy may appear feeble, timid and unprogressive.

Where they have not been the *fons et origo* of the towns, cattle have been, in many instances, expelled from the town by the initiative of Chiefs prompted by the example of others. The policy early adopted of concentration of effort in Sanitary reform on the towns of paramount Chiefs, the use of the forces of rivalry and imitation have resulted in much spontaneous effort towards improvement in many towns and Chiefdoms.

30. It will be understood that the scheme dates back to a time years before I had any connection with Sierra Leone, and I can claim no share in its conception, or successful working or development. It is no reflection on the scheme to express the opinion that the time has probably come when its purely Sanitary character should be emphasized, and this in particular with regard to Prize awards. I submit the time is passing when cleanliness, in the sense of freedom from rubbish, etc., of a town, should be held to deserve such distinction. Cleanliness is, no doubt, one of the first considerations, but it should be followed by town-planning and other constructive and reconstructive work. Under the conditions of comparatively rapid decay to which most native huts are subject, town-planning is a measure the results of which can be seen at an early date. Road or street-making in a purely native town means town-planning. In the cases of new towns in construction, or parts of towns, or those rebuilt after destruction by fire, the road may and should be made first as giving the building lines for huts, etc. ; but in old towns or parts of old towns, the roadway are best "made" by the spaces left by ruined huts with the foundations levelled and the debris removed.

It will not be due to lack of intelligence on the part of most Chiefs and Headmen if instructions that certain huts in repair shall not be repaired, and that when they become uninhabitable they shall be demolished so as to leave a straight wide roadway, or, in other cases, to allow more air space between huts are not followed.

It appears likely that many chiefs are, so far as Sanitation and the scheme are concerned, over-zealous in road-making remote from towns and villages. Needless to say there is no intention to decry such useful work, but it should be entirely dissociated from the Sanitation scheme and its awards.

In some cases quite new towns have been planned and built on regular lines in the immediate vicinity of the old towns, with the intention of vacating and demolishing, or profoundly re-modelling the old towns; but this course can be adopted only exceptionally. Many of the old towns are built on quite the best sites in the neighbourhood and cover them, and in such case it would be a mistake to encourage a removal for the sake of gaining a sword or other award in a hurry. Though it necessarily takes a longer time, the improvement of such towns, so far as building lines are concerned, should be gradual, and effected by taking advantage of the opportunities presented by the process of decay. The demolition of three or four huts in bad repair, if judiciously selected, would in many comparatively large towns in the Protectorate go far towards providing a good wide straight central roadway.

31. The subject of road-making will bear a little further consideration from the Sanitary point of view.

An ambitious chief, who sees a Government-made road in the Protectorate, desires to imitate it, and makes roads or streets on the same model in his town, and this means just twice the length of earth ditches that there is of road, and perhaps water stagnation where none existed before. The ditches have been made only as a means for easily obtaining material with which to raise the road, and if they happen to carry storm-water and have a marked gradient, are almost certainly very soon out of proper gradient, full of holes, blocked by silt, etc., etc. Generally speaking, there appears to be little doubt that so far as unguided, unsupervised native-made drains are concerned, the fewer the better; and the motto should be "Filling-up," and not "Drain-cutting." In one town relatively elaborate streets and drains had been made in special preparation for a special visitor, and those drains which led anywhere delivered into a pit in the town just behind the hut occupied by the principal visitor. As there had been intermittent rains, there was water in this borrow pit, with the result that it teemed with frogs, which made such a noise during the night that 100 carriers were told off at daybreak to fill up that hole. One important town in particular is in mind in which the combined methods of new building and rearrangement of old sites has resulted in making it in these respects a model town. In it there is not a single drain cut, because there is no need for one. The centre of the town is its highest point, and from this the ground slopes evenly and gradually on all sides, and the soil is largely composed of sand and pervious. In such cases the avoidance of drain cutting is commendable. It is not intended, of course, that in no cases and under no circumstances are drains desirable in native towns, but that encouragement in their unsupervised construction should be sparingly given, and the emphasis should be placed rather on filling up.

Though the danger of the spread of fire is the reason most easily understood by natives why huts should not be close together, there is the other reason that by this means greater inter-hut ventilation is provided for and indirectly also that of the huts themselves.

32. The large rivers are subject to great variation in the volume of water passing at different times in the year, and in places some of them overflow their banks for several months during the rainy season; both the rise and fall being very rapid.

The result is that in some cases large swamp areas exist near towns at such times, and though fish swarm with the water from the river, mosquitos are abundant. The only way to deal with such places is to clear the area of all low bush and by clearing is meant "uprooting" (stumping). Unfortunately there appears to be no crop which as a rule such ground would suit and which might prove an extra inducement to Chiefs to spend

labour in during the work. The sanitary object is to make the area such that when flooded the water presents the appearance of a clean-edged lake with uninterrupted surface except for the large tree trunks which may be left standing in it.

Mosquitoes do not readily breed in the open, and fish will have access to all parts. It may be as well to state definitely that three such places are: Mano (on the Railway Line), at Sumbuya (*i.e.*, Sumbuya, Matakong and Mabungo), and at Pujehun on the Wange River (North Sherbro District). No doubt there are many other similar places, but I know of these and they are all important places.

33. *Bo*.—As a railway, road and trading centre, and the place where the schools for the sons of Chiefs is established, Bo is at present the most generally important Station on the line.

The housing of European Officials is in much the same position as when Professor Simpson made his Report; the storage capacity for water has been slightly increased since that time. The most is not, however, made of it, and during the dry season aluminium water jars full of drinking water are conveyed by train from Kennema three times a week.

The native town obtains its supply from swamp springs. There are 24 Government owned tanks, and 8 belonging to the European Mercantile Firms; all are above ground and proofed.

Government Tanks :—	European Firms :—
20 of 400 galls. each iron	1 of 200 galls. iron.
2 of 1,550 „ „ „ cylinders	3 of 400 „ „
1 of 760 „ „ „	1 of 450 „ „
1 of 1,800 „ concrete	3 of 1,500 „ „
Total 13,660 galls.	Total 2,550 galls.

In June, Dr. Orpen reported, as a result of a test mosquito larvæ survey in the native Town, School and European compounds, that out of 83 compounds examined, larvæ were found in 25 (30·1 per cent.), and out of 55 barrels 9 per cent. contained larvæ. The larvæ found were chiefly of *Stegomyia*.

SANITATION PRIZE WINNERS, 1911.

DISTRICT.	CHIEF.	TOWN.	1911.
Karene	Bai Inga	Mange and Kambia ...	Sword.
Railway... ..	Chief Bayou	Mambona	Sword.
	Senesi Junbo	Limay	Sword.
Northern Sherbro' ...	Ahmadu Kai Kai ...	Bandajuma	Sword.
	Madame Miata	Juring	Sword.

PROTECTORATE SANITATION PRIZES.

1905 TO 1911.

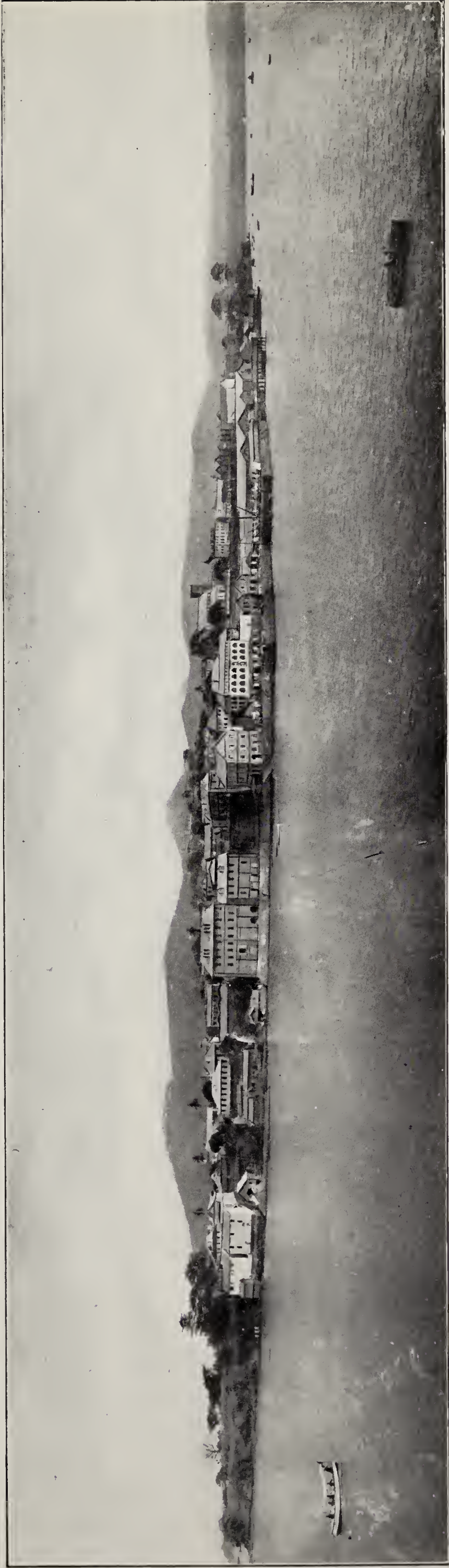
DISTRICTS AND CHIEFS.	TOWN.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
KARENE.								
Alimami Ahmadu ...	Kabantama ...	—	S					
Alimami Rascine ...	Banti ...	—	—	S				
Alimami Noah ...	Tawea ...	—	—	S				
Alpha Mamadu ...	Balandugu ...	—	—	—	S	—	C	
Alimami Bombo Lahai ...	Heremakano ...	—	—	—	S			
Alimami Saidu ...	Urika ...	—	—	—	S			
Chief Kandeh Scio...	Kalangba ...	—	—	—	—	S		
Alimami Surie ...	Samaya ...	—	—	—	—	S		
Alikali Namina Modu ...	Port Lokko ...	—	—	—	—	S	—	C
RONIETTA.								
Chief Margai ...	Bombatuk ...	S	£5	£5	£5	C		
Madam Tucker ...	Sembehuh ...	£5	£5					
Madam Caulker ...	Rotifunk ...	£5	£5	£5				
Chief Lamboi ...	Moyamba ...	—	—	S				
Chief Musa ...	Mano ...	—	—	—	S	—	—	C
Alimami Kano ...	Barrina ...	—	—	—	—	S		
RAILWAY.								
Chief Kotuba ...	Pendembu ...	—	S	—	—	C	—	C
Chief Boyma Dowe ...	Wundey ...	—	—	S	—	—	—	C
Madam Humonyaha ...	Kennema ...	—	—	—	—	S	—	C
Chief Matturie ...	Jabama ...	—	S	£5	—	—	C	
CENTRAL.								
Chief Kamasso ...	Kainkordu ...	—	S	£5				
Bai Kaffarie ...	Matotoka ...	—	—	S				
Chief Suluku ...	Sanda Kornoh ...	—	—	S				
Bai Yosso ...	Mayosso... ..	—	—	S				
KOINADUGU.								
Chief Serra Mordu...	Manonkhon ...	S						
Chief Samba ...	Kennema ...	—	—	—	S			
Busie Sorie ...	Mussaïy ...	—	—	—	—	—	S	C
SHERBRO'.								
Peah Sargbo ...	Marka ...	—	S					
Bokari Gpaka ...	Yandahun ...	—	S					
Bakie John Tucker ...	Gbap ...	—	—	S				
Chief Konjo ...	Yarbye ...	—	—	S				
Chief Fama Yani ...	Yonni ...	—	—	S				
Besse Kai Luseni ...	Fairo ...	—	—	—	—	S		
Bemba Siamai ...	Falaba ...	—	—	—	—	S		
Bokari Sela... ..	Pujuhu ...	—	—	—	—	—	S	
HEADQUARTERS.								
T. C. Caulker ...	Rotifunk ...	—	—	—	—	S		
Pa Nembana ...	Robabai... ..	—	—	—	—	S		
Alimami Foray Sonna ...	Wallai ...	—	—	—	—	—	S	
Alimani Konti ...	Moyani ...	—	—	—	—	—	S	

NOTE.—S means Sword; C means Certificate.

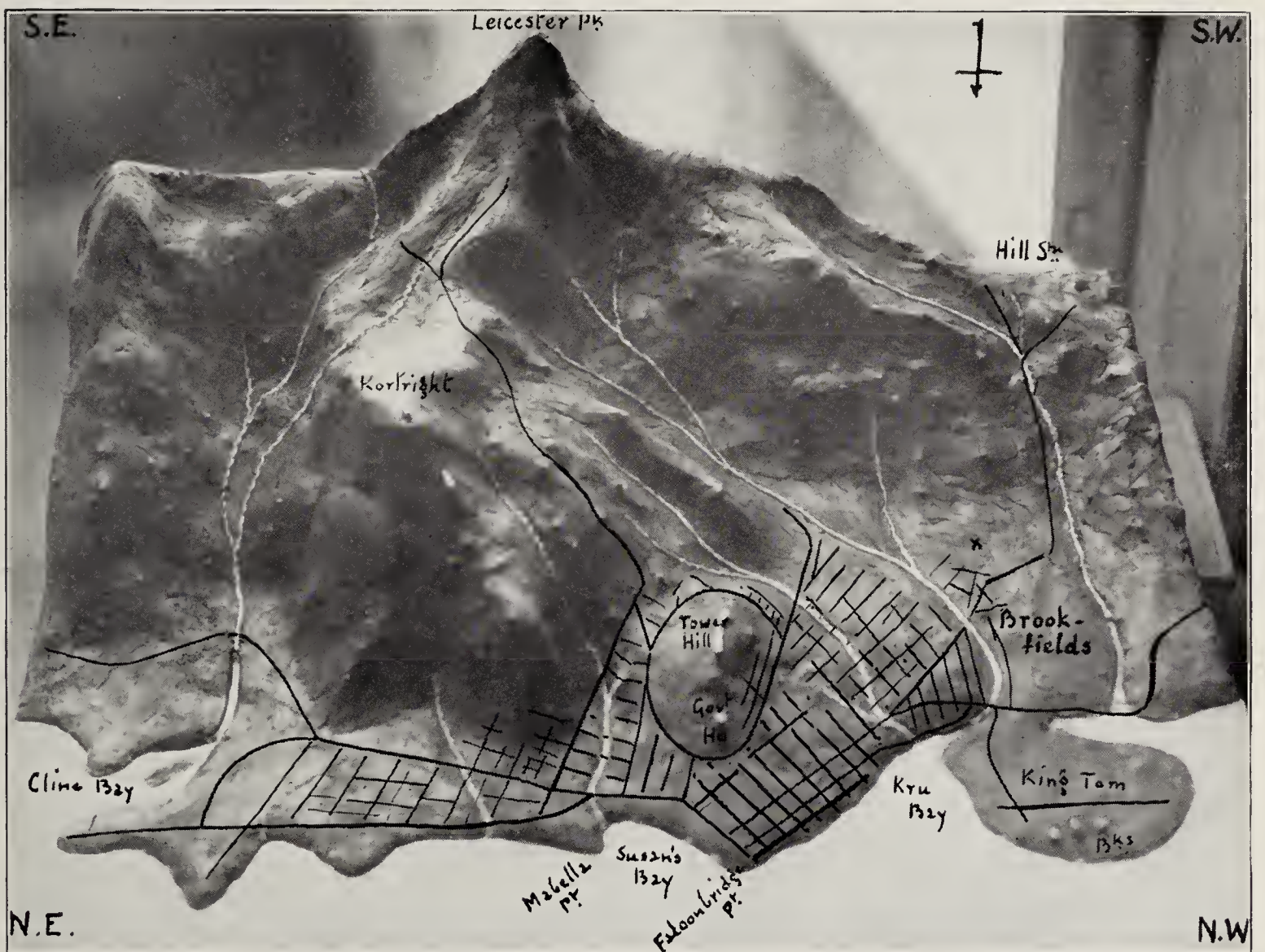
PICTURES ILLUSTRATING
THE
ANNUAL SANITARY REPORT
ON
SIERRA LEONE
BY THE SENIOR OFFICER,
FOR THE YEAR 1911.

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1.— View of Freetown from the River, looking South. Kru Bay on right, and Falconbridge Point on left. Leicester Peak in middle background, and Tower Hill Barracks immediately below. The top of Sugar Loaf Mt. to the right in the distance; Kortright, and Mt. Aureol to the left.

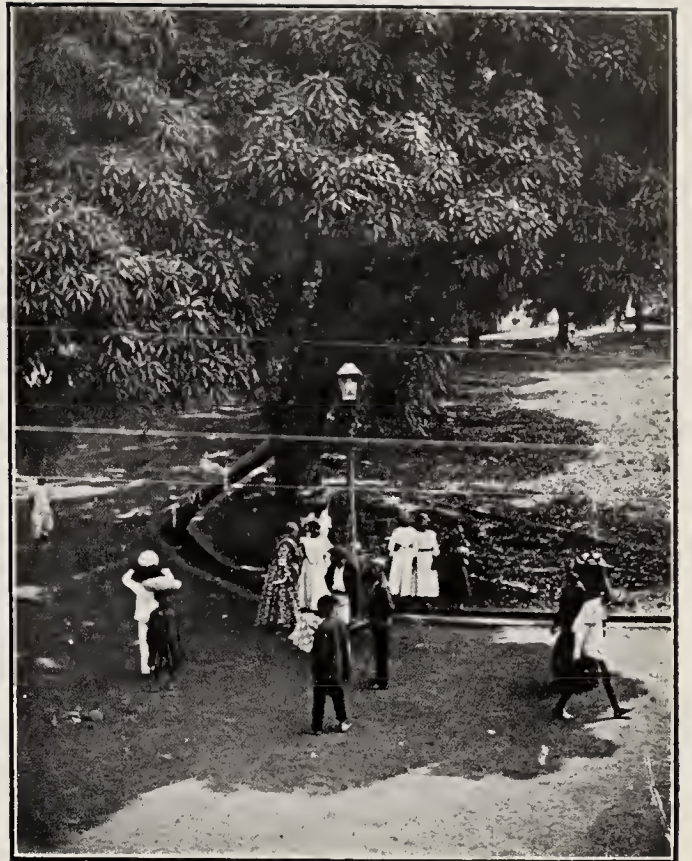


2a.—Photo of Relief Map with Streets roughly marked in to indicate general arrangement of City at the bases of Hills. "Brookfields" area is shewn on the right between Alligator and Congo Rivers, and with few Streets which have few houses on them. The line of the Drain runs through the point X straight from river to river. Drain unfinished December, 1911.

5.—Street Map of Freetown.



6.—Westmoreland Street, road repaired and new concrete drains laid.



7.—Corner Westmoreland Street, and approach to Government House (the latter since repaired).



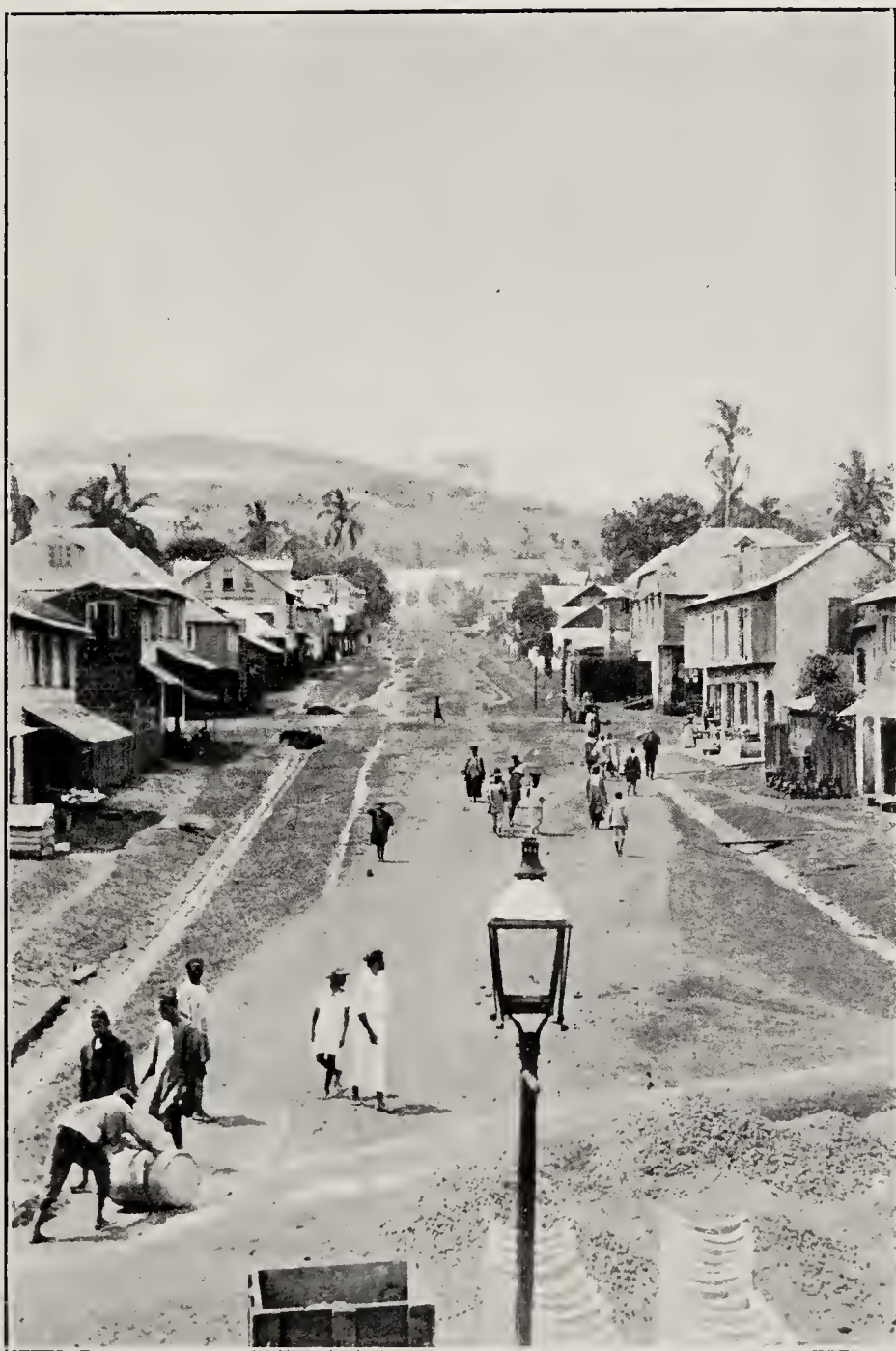
9.—Pademba Road; note grass-covered slopes at Roadside, Wattle Fences, and new type of Refuse Bin.



8.—Westmoreland Street, part not yet laid with new concrete drain (note grass-covered slopes).



11.—Junction of three drains (note opening of culvert, which runs obliquely under street for long distance).



10.—Percival Street; grass-covered street, chiefly at sides, rough masonry drains; concrete drain sections and broken stone in foreground, Tower Hill Barracks in background,



12.—Large old masonry main drain, with flat bottom, perpendicular sides, course in centre of street.



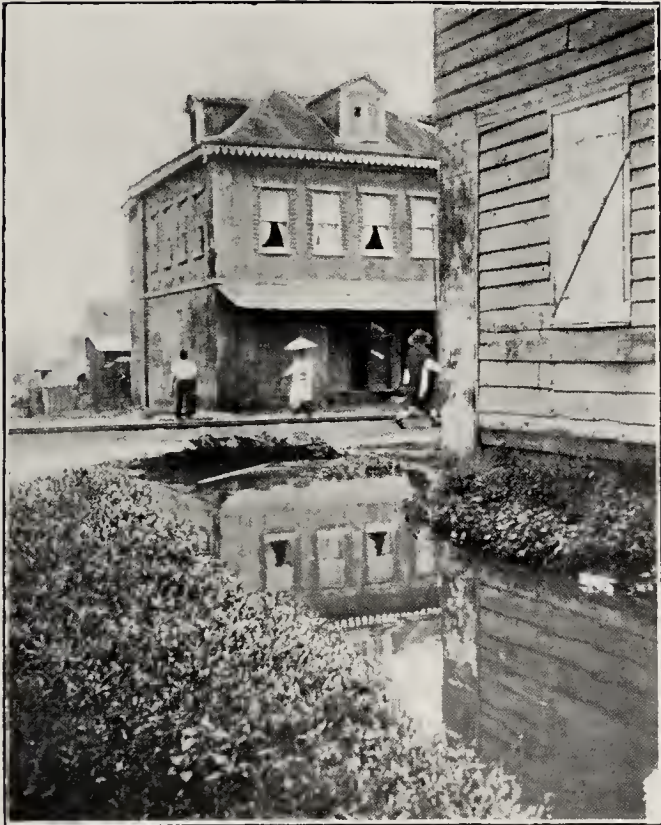
13.—Entrance to large culvert-hole, worn rock, flat bottom (rainy season).



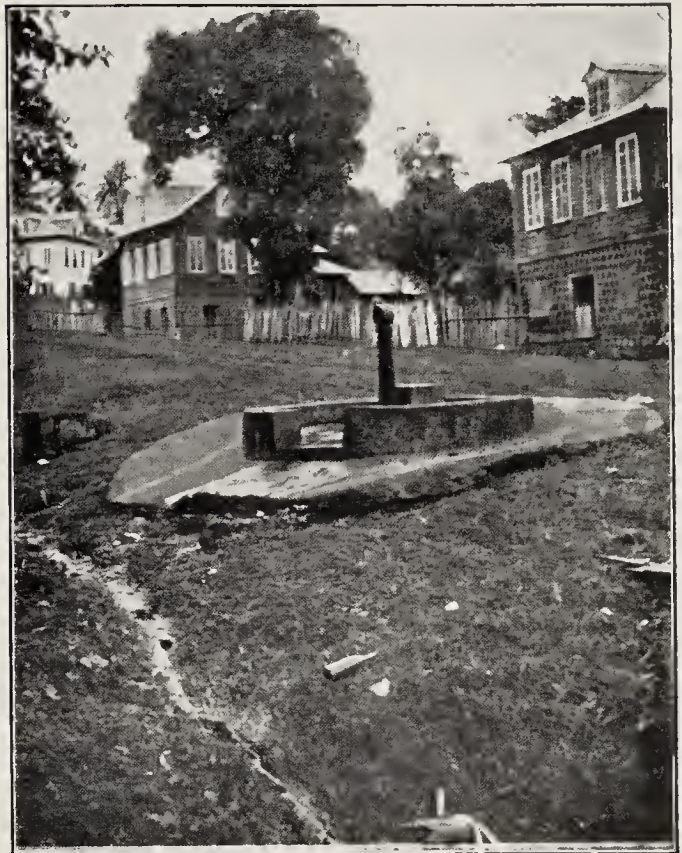
14.—Large masonry culvert and drain.



15.—Semi-circular concrete drain (road surface since repaired).



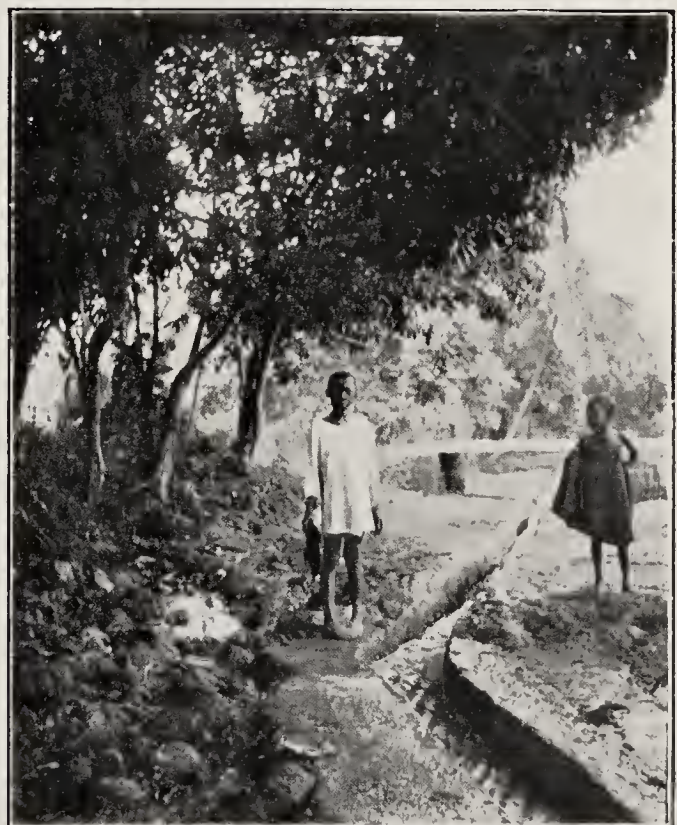
16.—Drain flooded owing to temporary blocking of culvert (rainy season).



17.—Water supply, street stand-pipe.



18.—“Portuguese Town” spring (constant), old water supply, bathing and washing place.



19.—Canal in bed of Sanders' Brook (dry season).



20.—Drain outfall into Sanders' Brook (rainy season).



21.—Sanders' Brook in flood in rainy season; indication of Canal seen in mid-stream; above, natives washing clothes.



25.—Canal in bed of Sanders' Brook (rainy season).



23.—Sanders' Brook, cesspit in bank (dry season).



24.—Sanders' Brook, cesspit in bank (rainy season).



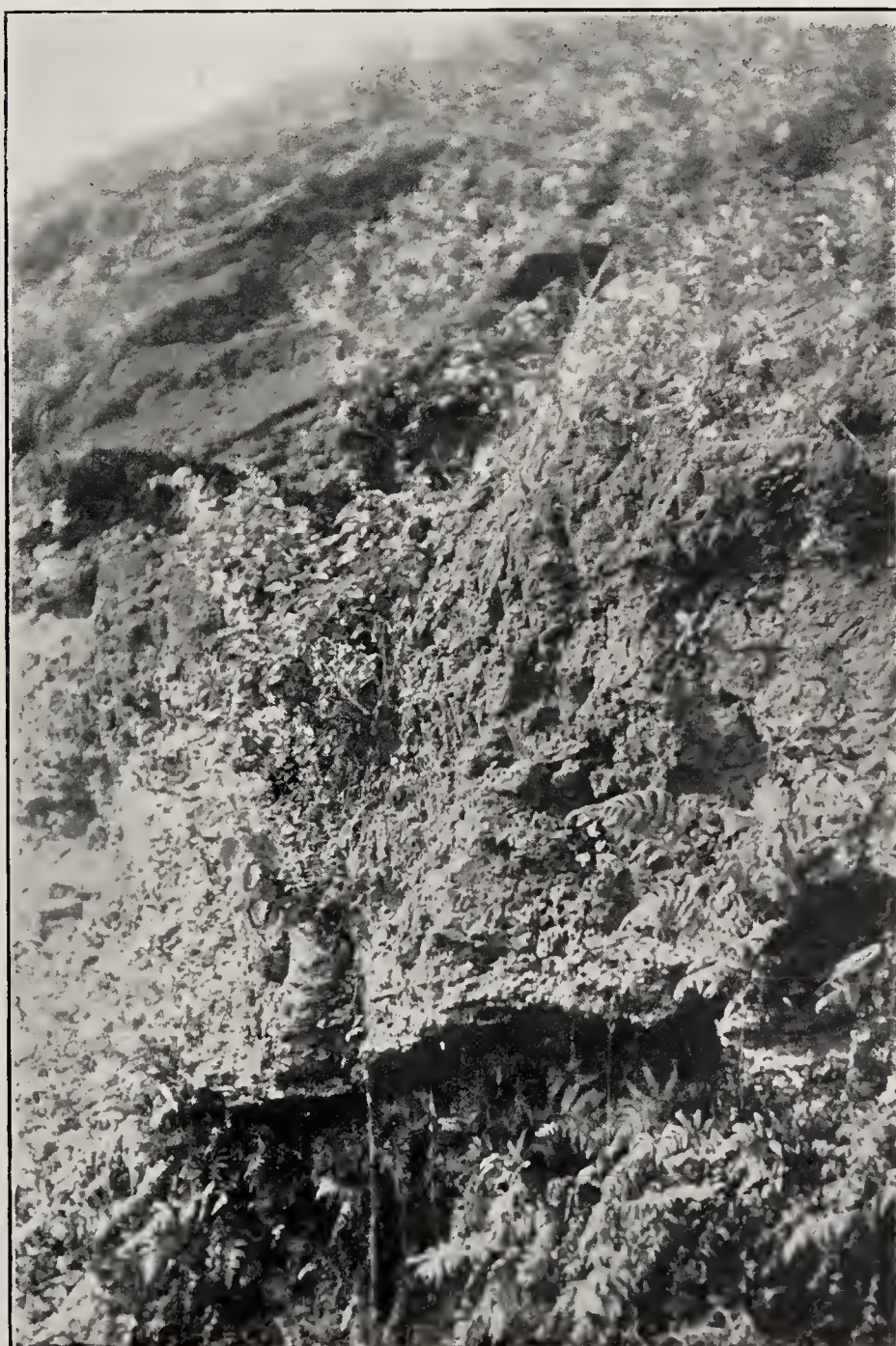
27.—Side of Railway Cutting, subsoil drainage from lower strata of laterite rock, and above Sienite rock underlying.



22.—Nicol Brook, canal ineffective through damage by storm flood (dry season).



26.—Springs, overflow from under foundations and steps of a Chapel (rainy season).



28.—(Another) View of Railway Cutting.



29.—View of Brookfields (between Congo River and Alligator River) looking South, shewing flat plain (swamp in rains) at base of hills. The Golf Club House in middle, to the left in background is Leicester Peak, and behind the camera is the Recreation Ground.



30.—View looking East across Brookfields, shewing Golf Club House and Mt. Rly. on left; Leicester Peak in background on right. Intercepting drain in course of construction passes behind Club House between scattered trees (works not shewn).



32.—Latest type masonry Double Bungalow with “Eternit” roof; reinforced concrete floor, and Verandah walls; “Steelenite” ceilings (note projection of eaves).



31.—Three new Concrete Bungalows for Officers in Freetown.



33.—New Bungalow for Comr. of Police in Freetown.



34.—Clinetown Railway Station, Stores, Workshops, Offices, &c.



35.—Bungalow at Hill Station (four room).



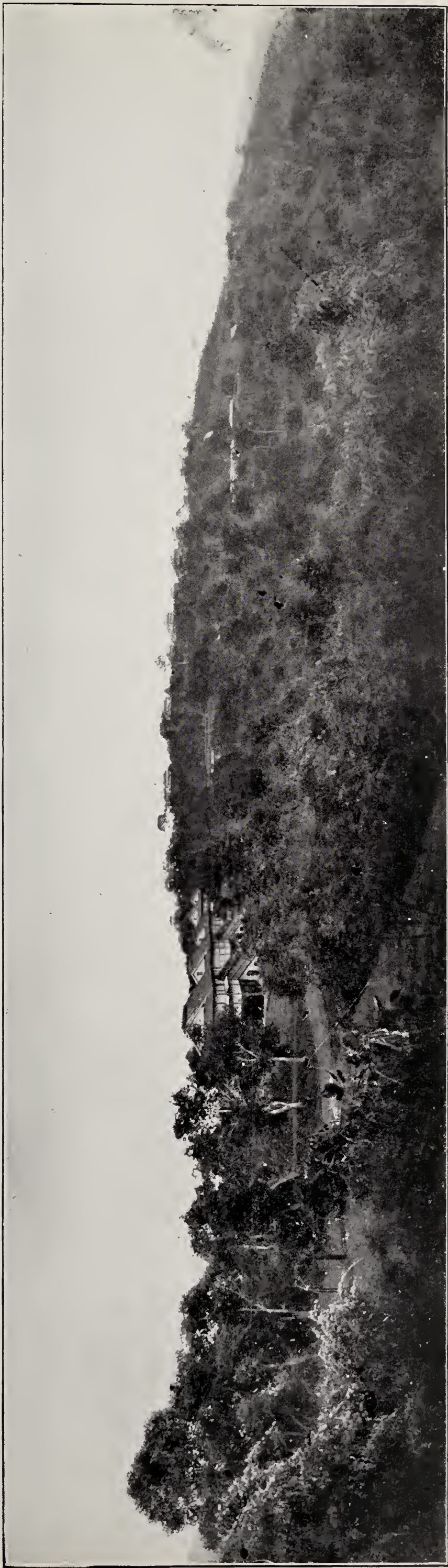
36.—Bungalow at Clinetown (Railway Officials' Quarters).



37.—Clinetown Railway Settlement, Works, Stores, Quarters, &c., and Native Town (view from Mount Aureol).



38.—View at Hill Station looking South-East from “Connaught Terrace,” with Leicester Peak a little to left, and Sugar Loaf (cloud capped) to the right in background. Railway Station and Wesleyan Mission Bungalow in the hollow; the General’s Bungalow on the hill just above the dead tree.



39.—View at Hill Station looking North from Cable Coy.'s Bungalow, below and a little to right of the General's Bungalow in view above. Many of the Bungalows are shewn on the hill ridge in the background.



40.—Earthenware pot with “Ojuoro” plants in water; the water is used for sore eyes, &c., &c., and by mosquitos for breeding purposes in Freetown.



41.—Broken Bottles on boundary walls; retain water in which mosquito larvæ breed.



42.—Bottle Border to flower bed; hold water and breed mosquitos in rains.



43.—Oxen Rubbish Cart, Freetown City Council.



44.—Street Tin and Bottle Bin.



45.—Incinerator (Refuse destructor), first type, 1908.



46.—Incinerator (Refuse destructor), new type, 1909.



47.—Sanitary Refuse Hammock.



48.—Sanitary Incombustible Refuse Canoe.



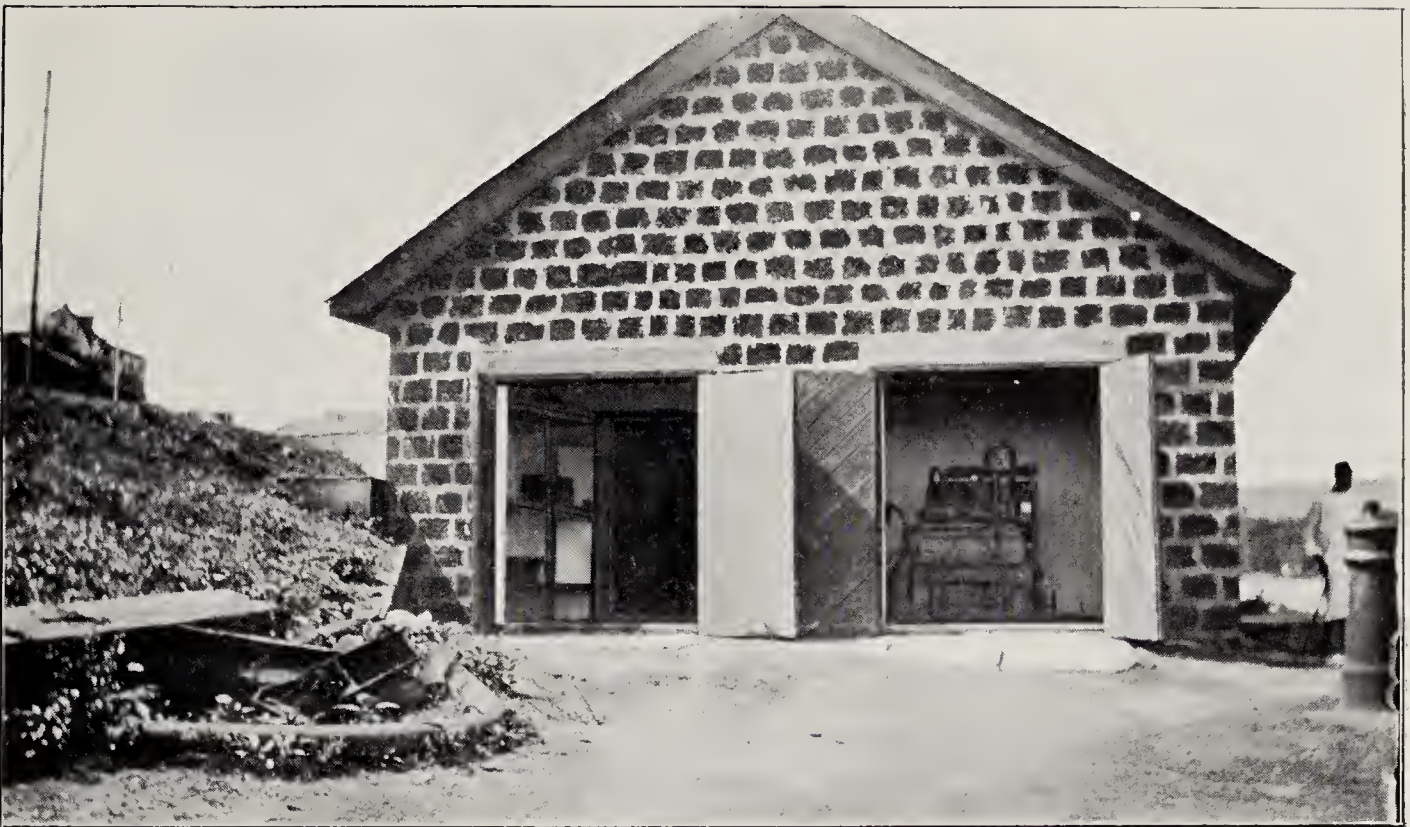
50.—Sanitary Refuse Hammock, empty.



49.—Street Refuse Bin.



51.—“Clayton” Fumigating Machine House on Government Wharf, shewing proximity to Govt. Jetty, Railway, and Customs Sheds; view from other Jetty.



52.—“Clayton” Machine House, shewing two of the four chambers, and machine.



53.—Cotton Tree, Freetown.



54.—A commercial street corner, shewing covering of lots by buildings. (Howe-Oxford Sts., Freetown).



55.—New R.C. School in Howe Street, to illustrate tendency to build high houses and the use of concrete blocks. (Freetown).



56.—Heddle Swamp at Bonthe, tide full. View from bridge in mangrove-turf-causeway which separates swamp from river. Towards the left the swamp runs far up into the town. On the right is a large verandah-house with store close by, and foundations (just above water) for another house the building being done intermittently when tide out.



57.—Heddle Swamp, Bonthe, shewing building in swamp (tide full). View from land side looking towards causeway and river. Photo taken late in 1910 shews early stage of house completed in panoramic view taken early in 1911. Note labourer carrying stone wading out to build.



58.—Another view of same from different point, tide out.



59.—View similar to last, with tide full, taken some months after, and shewing buildings completed, rough turf filling, and further building proceeding as before below high water.



60.—Premises of Swiss trading firm at Bonthe; reinforced concrete.



61.—Boia Railway Junction, shewing Railway Employees' (native) Reservation.



62.—Railway Employees' Houses at Mattru, replacing "shimbeks" similar to those remarked on adversely by Professor Simpson at Bo (Labourers' Qts.).



63.—Court Messengers' lines at Moyamba; view of less than half the square.



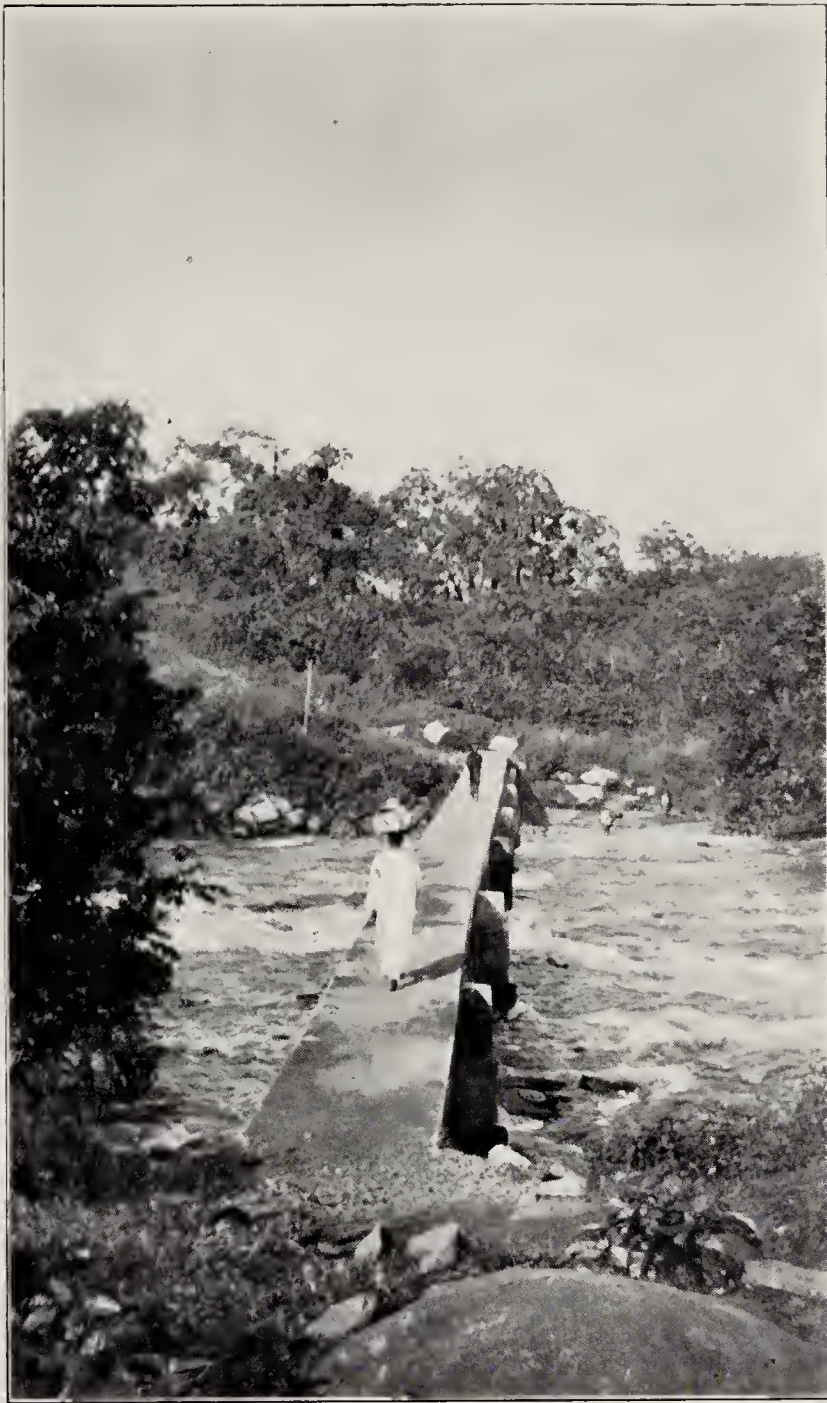
66.—West African Regt. lines at Port Lokko Bks. Note brooms on long poles standing by each hut for beating out fire (useful in practice).



64.—Rest House at Bo (Govt. built). Palm thatch over corrugated iron roof (verandah floor since concreted to throw off water which leaks through thatch and owing to shelter did not dry).



65.—View of verandah of above, shewing arrangement of double roof (thatch).



67.—Reinforced concrete bridge connecting Port Lokko with Old Lokko.



68.—House used as Rest House by courtesy of native trader at Bambana.

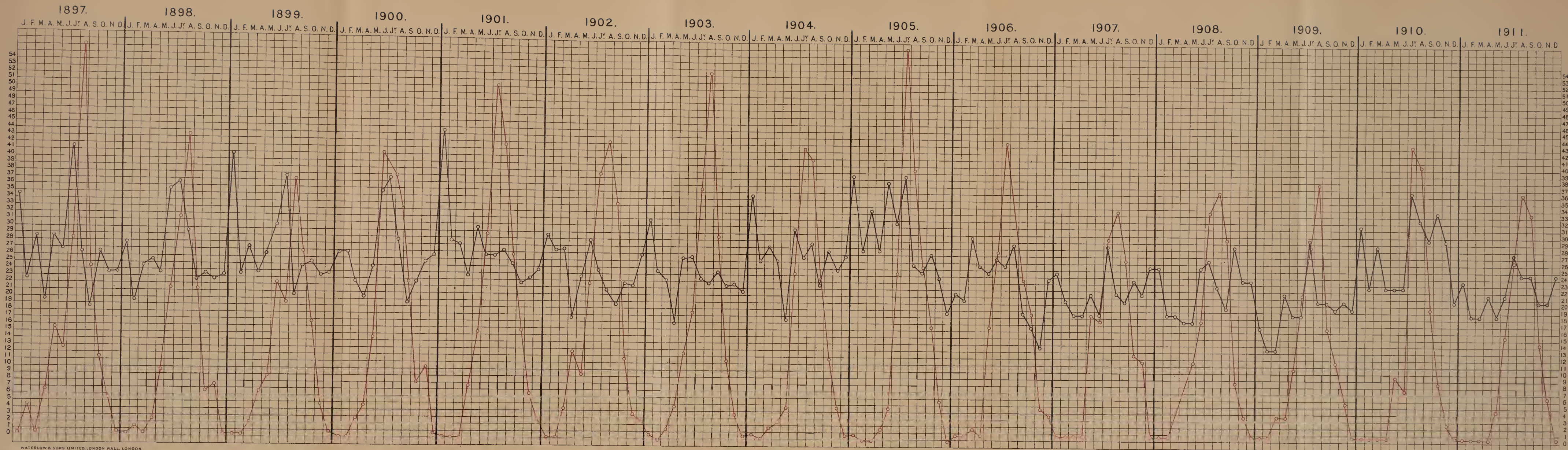


CHART SHOWING MONTHLY RAINFALL & MONTHLY DEATH RATE.

FREE-
TOWN
RAIN-
FALL
for
30
years
from
1882
to
1911
inclusive
month
by
month.

